

# NEXUS

NEW TIMES MAGAZINE

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#### STATEMENT OF PURPOSE

NEXUS recognises that humanity is undergoing a massive transformation. With this in mind, NEXUS seeks to provide 'hard-to-get' information so as to assist people through these changes. NEXUS is not linked to any religious, philosophical or political ideology or organisation.

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### **GLOBAL NEWS**

We report on global warming decline in the 18-year trend-line, Google X's nanobot pills, research into near-death experiences, Russian electronic warfare, parallel worlds, ISIS as a US terror instrument, the corporate monopoly of seeds, Vladimir Putin's warning to the West, and more.

### **PROJECT CENSORED'S TOP 25 NEWS STORIES**

By Prof. Mickey Huff and Project Censored. Continuing a tradition going back to 1976, the Project Censored team has judged the most important American and international news stories of 2013–2014 that should have been given more attention by the US corporate media.

### **THE DYNAMICS OF ALTERNATIVE SLEEP CYCLES**

By Joe Martino. There are several techniques that we can use to ensure we have the sleep we need without devoting a block of eight hours to the task and wasting so much time. We include a report on how, before the 1800s, people used to have two separate sleeps at night.

### **EBOLA...OR AFRICAN STRAINS OF TB?**

By Dr Lawrence Broxmeyer. The Ebola virus ravaging several West African nations has striking similarities with two strains of tuberculosis that are just as deadly and cause Ebola-like symptoms. Health authorities deny this link and don't consider it in the design of diagnostic tests.

### **SCIENCE AND PROMISE OF FULLERENE WATER**

By Dr Richard Alan Miller. Water containing fullerenes, or carbon buckyballs, has been shown to have powerful antioxidant and decontaminating properties. It can also protect against radiation exposure and neutralise waterborne pathogens, heavy metals and pesticides.

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By Paul Stonehill. In the 13th century, united Mongol tribes expanded their lands to create the largest empire the world had ever seen. Legends tell of an armoured metal cart that no arrow could pierce, and the search for Knights Templar treasure in a Central Asian lake.

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By Dr Paul LaViolette. Radiocarbon dating of organic material found within the Pyramid of the Sun in Bosnia indicates that the structure may be 34,000 years old. Ocean sediment flood-debris dates suggest that the pyramids complex survived three catastrophic flood events, the earliest 31,000 years ago.

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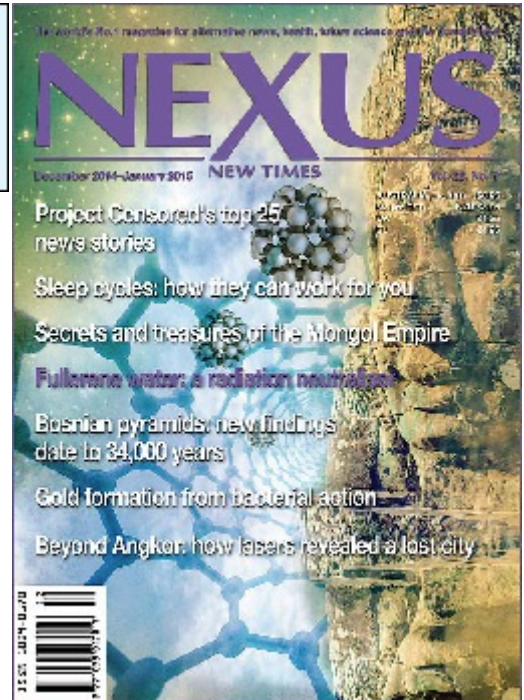
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## Editorial

Once again we present you with a round-up of some of the important information that the mainstream media choose to ignore in favour of celebrity worship, glorification of war and fearmongering. Meanwhile, they ignore or even suppress breakthroughs in health care, answers to environmental problems and news of mind-blowing technologies.

Ruling this world is easy: all you have to do is manipulate strong feelings via a burst of carefully picked information. The more people whom you can do this to at once, the more "power" you have. It doesn't matter if the information is real or "true": it only matters that you whip up a strong reaction and steer it towards your goal. Back in the days of World War I, the elites in the West repeatedly told the people that the "Huns" were eating babies; this resulted in tens of thousands of outraged men joining the war. They used the same tactic in World War II with similar effect. They then used the same tactic at the beginning of World War III—what we call Gulf War 1—when they told us that Iraqi soldiers were pulling Kuwaiti babies out of incubators to let them die. For Gulf War II, Australia's then Prime Minister, John Howard, lied when he told us that not only did Saddam Hussein have weapons of mass destruction but that he had, and had used, a human paper-shredder! It was all total nonsense, of course, but few journalists were analysing these assertions and the public perception was created that these statements were true.

The depth of feeling in many people about issues like immunisation and "global warming being caused by CO<sub>2</sub>" is such that even those who consider themselves "informed" or open-minded kneel down to the perceived truth as reported by "scientists" in a mainstream media format, assuming that their reports are fact-checked. More and more you hear this generic phrase: "So you are effectively saying that *all* those scientists and experts are either wrong or part of some huge conspiracy?"

Yet the fact remains that many of those scientists themselves eventually "break cover" and reveal their particular part of any plot in their section of the *very* compartmentalised world of scientific research.

Corporations are increasingly driving scientific research and then "own" the results. They have no obligation to release details of any such findings to the public. We rely on science whistleblowers to do this—but for the poor people who stand up for their conscience, this basically means a career death-sentence and eternal vilification by peers.

It is not some vast conspiracy where experts choose to hide things out of mean-spiritedness; it is a vast conspiracy where people are kept silent and in line, out of naked fear of losing their jobs and reputations. One might take heart that more and more expert witnesses/participants are wanting to come forward and reveal all, but the bad news is that more and more western governments have created legislation which they say is meant to protect whistleblowers but which, in reality, penalises them for coming forward.

Real journalism is on the way out in the mainstream media. Science is becoming a religion where, once again, we

are told to have *faith* in its unprovable tenets, from the Big Bang theory to the theory of evolution.

We live in an era where the rulers fight to control what you believe, using technology that would have made Goebbels drool. We live in an era where independent thought is now a radical act in itself.

Welcome to NEXUS Magazine!

*Duncan*

# Letters to the Editor ...

## Antigravity Advances

The antigravity article in the August-September 2014 issue [21/05] has come to my attention. Thank you for this, as it is thoughtfully written and unveils the plasma aspect of gravity modification.

I am involved with Mehran Keshe and his organisation, the Keshe Foundation. Mr Keshe and his team are currently attempting gravity experiments at the Spaceship Institute (SSI) in Italy. SSI is using a new kind of plasma reactor, and initial tests have recently generated pulses of up to 129 tesla. There is evidence of weight reduction of more than 0.5 kilograms, and addition of more than 2.0 kg on an 11 -kg assembly.

The above results still need third-party confirmation, but this is where Mr Keshe is going with it; see the website <http://tinyurl.com/pq5fth5>.

Rick C.,  
email [mrfixitrick@mac.com](mailto:mrfixitrick@mac.com)

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## Ebola, AIDS and TB

This letter is in response to Dr Lawrence Broxmeyer's article that attempts to point the finger at the tuberculosis bacterium as the cause and culprit of the Ebola syndrome.

A bacterium and a virus need a host to be created and thrive. That host is most often a protein with damaged amino acids. Dr Broxmeyer indirectly acknowledges this fact in his article, posted on Rense.com, where he references *Cell Wall Deficient Forms: Stealth Pathogens*.

This source states that the TB bacterium must "storm any inclement conditions the microbe might find itself in".

Bacteria and viruses do not cause the inclement conditions such as damaging the amino acids in proteins. AIDS and the Ebola syndromes exhibit damaged amino acids in the proteins of the victims. Negative enzymes and/or conditions such as pesticide poisoning and chronic dehydration cause amino acids in proteins to break down. These scientific facts exclude bacteria and viruses as the aetiology or source of AIDS and the Ebola syndrome.

What influences do negative enzymes, pesticides and dehydration have in AIDS, the Ebola syndrome and other poisonous insults to the human body such as spider bites? This issue is thoroughly addressed in a position paper at <http://tinyurl.com/oeg2ten>.

Brian David Anderson  
USA

[See Dr Broxmeyer's article in this issue. Ed.]

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## Alternative Energy Progress

Hi Duncan: I'm researching new and alternative energy generation. This will be interesting for your readers:

1. Tesla's Power Magnification. (Website deleted; see Ed. note.)
2. According to Pure Energy Systems News, GDS Technologies Ltd (Ontario, Canada) has a water-powered portable genset available for sale on its website, in output sizes of 5 kW, 10 kW and 15 kW and at a price of around \$1,000/kW. GDS says it can also custom-build these in sizes up to 50 kW. The genset is controlled by a simple on-off switch.

It is much less than half as loud as a gasoline or diesel genset of the same power output. One tank of water (e.g., four gallons [~15 litres] for the 5 kW) will run the device for three days; or you can hook a hose up to it (there is a check valve) and not worry about refilling the tank. It emits no pollution and no fumes, so it can be run indoors. See more info at <http://tinyurl.com/ohc2wbo>.

Kind regards,

Peter G., Queensland,  
Australia

*[Peter: What a mixed-bag email you sent me! The first link is just plain junk—one of many gimmicks where they use all the right buzz words, but all you buy is a book which goes nowhere. The Internet is full of them. However, your second link knocked my socks off! GDS Technologies has quietly released amazing technology to the market and is only recently coming to the attention of alt-science researchers like me. So, thanks for that! Ed.]*

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### **Child Welfare Deception**

Dear Editor: I'm writing regarding the new fostercare system in Australia. The government changed the laws of the child protection out-of-home care system as it was losing billions of dollars and had nowhere to put all the children it was taking. Most of the children are not taken from families who are at risk. The government needs numbers to be able to finance the new investment system in foster care. As foster care is now privatised, you can invest in it through social benefit bonds. Taxpayers are paying for the removal of children who mainly have disabilities, as they are worth a lot more to the government for funding.

Innocent families sign a parenting agreement that says it is with an early child care service that helps with support through educational carers in your home, but, really, the service is foster care, as the government now allows early child care providers to run as foster care service providers.

Thousands of children are being removed, and no one has worked out why there is such a huge number in foster care. No one would have suspected that we are signing our children into foster care and onto adoption through innocent-looking non-government services. Under the law, the same early child care providers can now also adopt out your child with the same consent form that you signed, thinking you were just using early child care providers.

This happened to me. I come from a welfare-trained background. I used a service, and my little boy with autism was nearly taken from my care. DoCS [Department of Community Services] now knows that I know what is really going on, so it backed down, but thousands of families will lose their children, and already have, under new laws that they don't know about and because of illegal consent forms.

Please help notify Australians. Taxpayers deserve to know what they are really paying for.

Susan R.  
NSW, Australia

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### **Energy from the Vacuum**

Hello everybody! There is progress on the Reid-Cell that I would like to share.

The Reid-Cell patent application was filed in October 2014. The ReidCell uses a diluted magnetic semiconductor (DMS) that includes double quantum dots. The charge separation is created by a spin-oscillation of the quantum dots oscillating with their own EM fields and thereby with the quantum vacuum.

There seem to be three ways to extract energy from an atom: fission, fusion and electron-nuclear spin oscillation. At the nuclear level, quantum rules apply which show that the atom itself and also its fields are made up of virtual particles.

Since the virtual particles are coming from space-time (quantum vacuum) itself, in this way we are extracting energy from the vacuum. That is why the Reid-Cell is a quantum open system.

The trigger voltage (static-source drain bias) that makes the quantum dots self-oscillate is created by the electrochemical potential difference and other effects.

Water molecules that are also integrated into the DMS nano-crystalline semiconducting material contribute to the quantum dot oscillations.

Please replicate this experiment for verification of the hypothesis. Partners for research and funding are welcome.

Marcus Reid  
Germany  
[www.vakuumenergie.de](http://www.vakuumenergie.de)



## Corporate Terrorism

Dear Duncan: It seems that the only question conveniently overlooked by governments and the mainstream media is: who supplies radical groups and others with weapons?

I think it's time that the people running the arms industries be made accountable for the number of innocent people killed and maimed by their products. The people running these corporations don't care who they sell to, as they supply both sides of every conflict. I believe that the people running these corporations should be charged with supporting terrorism and with crimes against humanity. Only a gullible person would believe that the arms industries want us to live in a peaceful, loving world.

Everyone I've spoken to believes that these industries are more than capable of inciting racial or religious hatred to start new conflicts or prolong existing ones for greater profit.

If you want to advertise your product or service in the media, you have to pay them. The terrorist groups who thrive on publicity get all the exposure they want for free, thanks to the corporate media. That's why I believe that the mainstream media should be charged with supporting terrorism.

It seems that governments believe that whatever corporations do is okay with them, especially those giving political donations. The number of people killed by weapons or pharmaceutical drugs must be of an acceptable level to governments because they do very little to stop it. Personally I believe that the majority of politicians should be renamed "puppeticians" (corporate-led "puppet" politicians).

It would be nice if someone invented a cure for the most common "mental illnesses" afflicting those in the political, religious and corporate sectors, i.e., greed and the lust for power and control. If these mental illnesses were cured, we would indeed live in a peaceful, loving and caring world.

Yours truly,

Jovan V.  
Broken Hill, NSW, Australia

*[Some fantastic points here, Jovan, but there is one thing that you and most people simply do not understand, and that is that every "terrorist group" on the planet has been created, funded, armed and trained by some national intel agency.*

*The only exception to this that I know of is the Bougainville Revolutionary Army (BRA), which was formed when villagers were upset by Australian mining giants forcibly displacing them from their homes and then hiring mercenaries to kill anyone coming near mining operations. The BRA used machetes and 100-year-old guns that didn't fire properly; no satellite phones, no automatic weapons, nothing with an end-user certificate.*

*ISIS is a joint creation of Saudi Arabia, the USA, the UK and Israel. It was established so that the USA can continue to attack Syria while pretending to bomb ISIS targets. The fact that no journalist is reporting this in the mainstream media reinforces my point in last issue's editorial that many journalists work for intel agencies and thus keep this sort of disturbing truth away from the public. Ed.]*

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## EMF Protection Devices

Hi Duncan: On wanting to re-gift an EMF protection device to a woman who suffers terribly from these fields, she said she did not require it as she recently received two Blushield devices. She exclaimed: "It's a miracle! I'm not affected by EMFs any more!" I suggested these devices to another woman who suffered the same way; she was truly amazed by the results. After testing these devices on more people, I have now made them available at [www.donnafisher.com.au](http://www.donnafisher.com.au). It is the people who are affected immediately by these fields whom we can learn from.

This technology is light years ahead.

Donna Fisher,  
Queensland, Australia

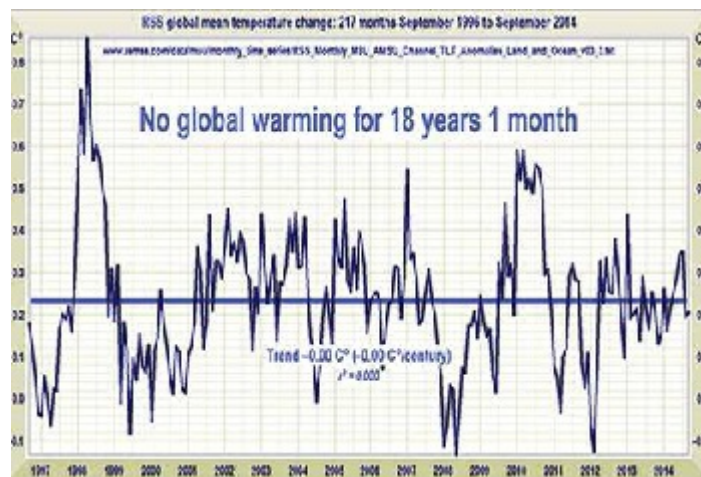
*[See review of Donna's new book in this issue. Ed.]*



**IT'S OFFICIAL: NO GLOBAL WARMING FOR OVER 18 YEARS!**

The RSS monthly satellite global temperature anomaly for September 2014 revealed that the Great Pause is now two months longer than it was last month.

Globally, September was scarcely warmer than August, which was itself some distance below the 18-year trend-line. Therefore, taking the least-squares linear-regression trend on the RSS satellite monthly global mean surface temperature anomalies, there has now been no global warming for 18 years and one month.



The Great Pause is the longest continuous period without any warming in the global instrumental temperature record since satellites first watched in 1979. It has endured for a little over half the satellite temperature record. Yet the Pause coincides with a continuing rapid increase in atmospheric CO2 concentration.

(Source: WattsUpWithThat.com, 2 October 2014, <http://tinyurl.com/164mbxk>.)

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**TOXIC CHEMICALS IN SALONS LINKED TO ADVERSE HEALTH EFFECTS INCLUDING CANCER**

In the first of its kind, a landmark study titled "Beauty and Its Beast: Unlocking the Impact of Toxic Chemicals on Salon Workers" reveals that long-term exposure to products routinely used in salons leads to an array of negative health conditions frequently suffered by beauticians, hairdressers and other salon workers.

"Studies across the globe have found correlations between chemical exposures in salons and adverse health outcomes in employees," said the study's lead author, Alexandra Scranton, Director of Science and Research for WVE (Women's Voices for the Earth).

"Salon workers, a population dominated by women, are exposed to a myriad of chemicals of concern every day in their workplaces," says the study.

"Hair sprays, permanent waves, acrylic nail application and numerous other salon products contain ingredients associated with asthma, dermatitis, neurological symptoms and even cancer. Salon workers absorb these chemicals through their skin and breathe them in as fumes build up in the air of the salon over the course of the workday. Research shows that salon workers are at greater risk for certain health problems compared to other occupations."

The report aggregates decades of research on the incidence of those health problems in the beauty care workforce. They include a disproportionate number of cancers, neurological diseases such as dementia and depression, immune diseases, birth defects, reproductive disorders including a high rate of miscarriage, skin diseases, asthma and other breathing problems.

The workers are exposed to chemicals such as formaldehyde, toluene, methyl methacrylate, *p*-phenylenediamine and ammonium persulphate. Furthermore, toluene, ammonia and methyl methacrylate are often found in the air of beauty and hair salons.

(Source: EcoWatch.com, 12 November 2014, <http://tinyurl.com/n59buyb>; WVE report available at <http://tinyurl.com/n55r6h7>.)

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## GOOGLE X NANOBOT PILLS

Google wants your body to host a new type of "search engine" by using a pill to release disease-detecting nanoparticles inside your body, which would travel through the bloodstream and send their findings back to an exterior sensor mounted on a wristband.

The project, run by the company's secretive Google X research and development division, is still in its infancy. Google hopes that the pills will be able to identify minute changes in body chemistry and act as an early warning system for diseases.

Dr Andrew Conrad, the molecular biologist who created a cost-effective HIV test that is widely used in blood-plasma donations, is heading up the latest Google X medical project.

"What we are trying to do is change medicine from reactive and transactional to proactive and preventative. Nanoparticles give you the ability to explore the body at a molecular and cellular level."

The pills wouldn't just be able to seek malignant cells. Different sets of nanoparticles would look for different diseases or markers. One set might look for evidence of atherosclerosis, a hardening of blood vessels due to fatty plaques that can lead to a heart attack or stroke. Another could monitor chemicals in the blood, such as high potassium levels which are linked to kidney disease.

Google X is also trying to create porous magnetic nanoparticles that would alter the offending cell, protein or chemical and could later be recalled.

"Then [you can] recall those nanoparticles to a single location— because they are magnetic—and that location is the superficial vasculature of the wrist, [where] you can ask them what they saw," said Dr Conrad.

(Source: RT.com, 28 October 2014, <http://on.rt.com/pagilp>.)

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## FIRST HINT OF LIFE AFTER DEATH IN BIGGEST EVER SCIENTIFIC STUDY

The largest-ever medical study into near-death and out-of-body experiences has discovered that awareness may continue even after the brain has shut down completely.

Scientists at the University of Southampton, UK, spent four years examining more than 2,000 people who suffered cardiac arrests at 15 hospitals in the UK, USA and Austria, and found that nearly 40 per cent of people who survived described some kind of "awareness" during the time when they were clinically dead before their hearts were

restarted.

One man even recalled leaving his body entirely and watching his resuscitation from the corner of the room. Despite being unconscious and "dead" for three minutes, the 57-year-old social worker from Southampton recounted the actions of the nursing staff in detail and described the sound of the machines.

"We know the brain can't function when the heart has stopped beating," said Dr Sam Parnia, a former research fellow at the University of Southampton (now at the State University of New York), who led the study.

"But in this case, conscious awareness appears to have continued for up to three minutes into the period when the heart wasn't beating, even though the brain typically shuts down within 20 to 30 seconds after the heart has stopped.

"The man described everything that had happened in the room but, importantly, he heard two bleeps from a machine that makes a noise at three-minute intervals. So we could time how long the experience lasted for."

Dr Parnia believes that many more people may have experiences when they are close to death, but drugs or sedatives used in the process of resuscitation may stop them remembering.

"Estimates have suggested that millions of people have had vivid experiences in relation to death, but the scientific evidence has been ambiguous at best," he said.

"Many people have assumed that these were hallucinations or illusions but they do seem to correspond to actual events."

The study was published in the journal *Resuscitation* (see abstract at <http://tinyurl.com/lkqzgg5>).

(Source: Telegraph, UK, 7 October 2014, <http://tinyurl.com/nke93yk>.)

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## **WHAT FRIGHTENED THE USS DONALD COOK SO MUCH IN THE BLACK SEA?**

On 10 April 2014, the USS *Donald Cook* entered the waters of the Black Sea and on 12 April a Russian Su-24 tactical bomber flew over the vessel, triggering an incident that, according to several media reports, completely demoralised its crew—so much so that the Pentagon issued a protest.

The USS *Donald Cook* (DDG-75) is a fourth-generation guided missile destroyer, whose key weapons are Tomahawk cruise missiles which have a range of up to 2,500 kilometres and are capable of carrying nuclear explosives.

The USS *Donald Cook* is equipped with the most recent Aegis Combat System—an integrated naval weapons systems which can link together the missile defence systems of all other vessels embedded within the same network, so as to ensure the detection, tracking and destruction of hundreds of targets at the same time.

Meanwhile, the Russian Su-24 that buzzed the USS *Donald Cook* carried neither bombs nor missiles but only a basket mounted under the fuselage, which, according to the Russian newspaper *Rossiyskaya Gazeta*, contained a Russian electronic warfare device called the Khibiny.

As the Russian jet approached the US vessel, the Khibiny disabled all radars, control circuits, systems, information transmission, etc. on board the *Donald Cook*. In other words, the all-powerful Aegis system, now hooked up—or about to be—with the defence systems installed on NATO's most modern ships, was completely shut down.

The Russian Su-24 then simulated a missile attack against the USS *Donald Cook*, which was left literally deaf and blind. The Russian aircraft repeated the same manoeuvre 12 times before flying away.

After that, the USS *Donald Cook* immediately set sail towards a port in Romania. Since that incident—which the mainstream media have carefully covered up, despite the widespread reactions sparked among defence industry experts—no US ship approached Russian waters again until mid-October.

According to some sources, 27 sailors from the USS *Donald Cook* requested to be relieved from active service as a direct result of the incident.

(Source: Voltaire Network, 8 November 2014, <http://tinyurl.com/kj4s6a3>.)

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## **WEAPONS THAT CHOOSE THEIR OWN KILL-TARGETS ARE ALREADY IN USE**

Military developers in the USA and other western countries are readying a whole new kind of weaponry that removes human control from targeting decisions.

At least three nations (UK, Israel and Norway) have deployed missiles that can destroy enemy positions without any guidance from human operators. The autonomous weapons use artificial intelligence and sophisticated software to choose targets.

"An autonomous weapons arms race is already taking place," said Steve Omohundro, a physicist and artificial intelligence specialist at the California-based Self-Aware Systems. "They can respond faster, more efficiently and less predictably."

That last part about "less predictably" worries many who fear that autonomous weapons will make warfare more likely or more destructive.

The Pentagon is testing the Long Range Anti-Ship Missile that can fly on its own for hundreds of miles, but officials won't say whether it's able to attack on its own. US defence policy forbids autonomous warfare.

"It will be operating autonomously when it searches for the enemy fleet," said Mark A. Gubrud, a physicist and member of the International Committee for Robot Arms Control. "This is pretty sophisticated stuff that I would call artificial intelligence outside human control."

Discussions are already under way at the international level to ban killer robots. Representatives from several dozen governments recently met in Switzerland to debate whether to add autonomous weapons to the Convention on Certain Conventional Weapons.

(Source: AllGov.com, 13 November 2014, <http://tinyurl.com/q95tju4>.)

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## **SCIENTISTS PROPOSE EXISTENCE AND INTERACTION OF PARALLEL WORLDS**

Griffith University academics are challenging the foundations of quantum science with a radical new theory based on the existence of, and interactions between, parallel universes.

In a paper published in the prestigious journal *Physical Review X*, Professor Howard Wiseman and Dr Michael Hall from Griffith's Centre for Quantum Dynamics, and Dr Dirk-Andre Deckert from the University of California, take interacting parallel worlds out of the realm of science fiction and into that of hard science.

The team proposes that parallel universes really exist and that they interact. The researchers show that such an interaction could explain everything that is bizarre about quantum mechanics.

Quantum theory is needed to explain how the universe works at the microscopic scale, and it is believed to apply to all matter. But the quantum world is notoriously difficult to fathom, exhibiting weird phenomena that seem to violate the laws of cause and effect.

As the eminent American theoretical physicist Dr Richard Feynman once noted: "I think I can safely say that nobody understands quantum mechanics."

Professor Wiseman and his colleagues propose that:

- The universe we experience is just one of a gigantic number of worlds; some are almost identical to ours, while most are very different;
- All of these worlds are equally real, exist continuously through time and possess precisely defined properties;
- All quantum phenomena arise from a universal force of repulsion between "nearby" (i.e., similar) worlds, which tends to make them more dissimilar.

(Source: PhysOrg.com, 30 October 2014, <http://tinyurl.com/md3vbwa>.)

## **AMERICA CREATED AL QAEDA AND THE ISIS TERROR GROUP**

Much like al-Qaeda, the Islamic State (ISIS) is made in the USA, an instrument of terror designed to divide and conquer the oil-rich Middle East and to counter Iran's growing influence in the region. The fact that the United States has a long and torrid history of backing terrorist groups will surprise only those who watch the news and ignore history.

The Director of the National Security Agency under President Ronald Reagan, Lt General William Odom, once remarked: "By any measure the US has long used terrorism. In '78-79 the Senate was trying to pass a law against international terrorism; in every version they produced, the lawyers said the US would be in violation."

During the 1970s, the CIA used the Muslim Brotherhood in Egypt as a barrier, both to thwart Soviet expansion and to prevent the spread of Marxist ideology among the Arab masses. The United States also openly supported Sarekat Islam against Sukarno in Indonesia, and supported the Jamaat-e-Islami terror group against Zulfikar Ali Bhutto in Pakistan.

Lest we forget, the CIA gave birth to Osama bin Laden and breastfed his organisation during the 1980s. Former British Foreign Secretary Robin Cook told the House of Commons that al-Qaeda is unquestionably a product of western intelligence agencies.

There are essentially three wars being waged in Syria: one between the government and the "rebels"; another between Iran and Saudi Arabia; and yet another between America and Russia. It is this third, neo-Cold War battle that made US foreign policy makers decide to take the risk of arming Islamist rebels in Syria, because Syria's President, Bashar al-Assad, is a key Russian ally. Rather embarrassingly, many of these Syrian rebels have now turned out to be ISIS thugs who are openly brandishing American-made M16 assault rifles.

ISIS is not merely an instrument of terror used by the USA to topple the Syrian government; it is also used to put pressure on Iran.

The last time Iran invaded another nation was in 1738. Despite what the western media's war cries would have you believe, Iran is clearly not the threat to regional security; Washington is. An intelligence report published in 2012, endorsed by all 16 US intelligence agencies, confirms that Iran ended its nuclear weapons program in 2003.

The United States is using ISIS in three ways: to attack its enemies in the Middle East; to serve as a pretext for US military intervention abroad; and, at home, to foment a manufactured domestic threat to justify the unprecedented expansion of invasive surveillance.

By rapidly increasing both government secrecy and surveillance, US President Barack Obama's government is increasing its power to watch its citizens while diminishing its citizens' power to watch their government.

The so-called "War on Terror" should be seen for what it really is: a pretext for maintaining a dangerously oversized US military. The two most powerful groups in the US foreign policy establishment are the Israel lobby, which directs US Middle East policy, and the military-industrial complex, which profits from the former group's actions.

Since US President George W. Bush declared the "War on Terror" in October 2001, the cost to the American taxpayer has been approximately US\$6.6 trillion and thousands of fallen sons and daughters—but the wars have also raked in billions of dollars for Washington's military elite.

Put simply, the "War on Terror" *is* terrorism—only it is conducted on a much larger scale by people with jets and missiles.

*(Source: GlobalResearch.ca, 19 September 2014, <http://tinyurl.com/08xnlew>.)*

## **BEWARE THE CORPORATE TAKEOVER OF SEEDS UNDER MANY GUISES**

by Dr Eva Sirinathsinghji

In the UK and much of the rest of Europe, the industrialised farming system means that farmers are no longer saving seed as they've done for millennia, maintaining local varieties and cultivating regional biodiversity.

High-yielding and hybrid varieties now dominate the market, designed for large-scale high-input industrial farms.

A 2005 study found that on the European seed market, 74 per cent of cauliflower varieties were hybrids, as were 80 per cent of carrots, 85 per cent of calabrese, 87 per cent of spinach, and 89 per cent of tomatoes.

Hybrid seeds are not worth saving as the yield goes down after the first year of planting due to the loss of "hybrid vigour".

These hybrids have replaced open-pollinated varieties.

Seminis, a European seed company bought by Monsanto in 2004, had previously deleted 2,000 open-pollinated varieties from its stocks, but these varieties still remain available to Monsanto for its breeding programs.

### **Monopolisation is a global issue**

Monopolisation of seed is not just a European issue but a global one, with international agritech giants buying out independent companies and leaving farmers with little choice but to purchase hybrid or genetically modified seeds in countries like the United States.

Monsanto bought 200 US independent seed companies over 10 years, with the corporation now estimated to own 23 per cent of the proprietary seed market.

A similar drive for seed monopoly is taking place in the African continent, with Seed Co, one of Africa's largest home-grown seed companies being bought out by transnational corporation Limagrain, the biggest seed and plant-breeding company in the European Union. South Africa's largest seed company, Pannar Seed, was recently taken over by Pioneer Hi-Bred, a subsidiary of DuPont.

These acquisitions of seed companies by a handful of corporate giants pose great threats not only to seed biodiversity but also to food sovereignty and people's access to fresh foods, giving GM companies the chance to spread their patented seeds across the world.

Monsanto, Syngenta and DuPont already own 53 per cent of the global commercial seed market, and proposed legislative proposals and treaties are only set to increase their monopoly.

These proposed changes to the European Union seed laws (EU Plant Reproductive Material Law) will further restrict the varieties of vegetables that can be saved and sold, threatening small and independent seed companies as well as small- to medium-scale commercial farmers.

The proposed changes have been considered a gift to industry, allowing unrestricted marketing of patented seeds and favouring large companies with an expensive process of seed registration.

### **1991 UPOV Act's impact on food sovereignty and biodiversity**

In another threat to food sovereignty, countries are being pressured to implement stricter plant variety protection regimes and adhere to the 1991 International Convention for the Protection of New Varieties of Plants Act of the International Union for the Protection of New Varieties (UPOV).

This Act is officially designed to give acknowledgement to breeders for new plant varieties, offering intellectual property (IP) rights for breeders and farmers. Crucially, under the 1991 UPOV Act, farmers would not be allowed to exchange or sell such material.

Ghana is one country that is currently being pressured into implementing UPOV 1991. The agribusiness transnational corporations will not release GM foods in Ghana until this UPOV 1991 plant-breeders' Bill is passed, as when it's in place it will protect the IP rights of seed corporations. With this law, the corporations can flood Ghana with GMOs and demand that Ghana pay the price they set.

*(Source: Inst. of Science in Society, Report 22/10/2014, <http://tinyurl.com/nj59gyh> )*

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### **PUTIN TO WESTERN ELITES: PLAYTIME IS OVER**

Most people in the English speaking world missed Russian President Vladimir Putin's speech at the Valdai International Discussion Club's XI session in Sochi on 24 October. This is probably the most important speech since Winston Churchill's "Iron Curtain" speech of 5 March 1946.

In this speech, Putin abruptly changed the rules of the game. Previously, the game of international politics was played as follows: politicians made public pronouncements for the sake of maintaining a pleasant fiction of national sovereignty, but they were strictly for show and had nothing to do with the substance of international politics. In the meantime, they engaged in secret back-room negotiations in which the actual deals were hammered out.

Putin had tried to play this game, expecting only that Russia be treated as an equal. But these hopes have been dashed, and at this conference he declared the game to be over, explicitly violating western taboo by speaking directly to the people over the heads of elite clans and political leaders.

The Russian blogger "Chipstone" has summarised the most salient points from Putin's speech:

- 1.** Russia will no longer play games and engage in back-room negotiations over trifles. But Russia is prepared for serious conversations and agreements if these are conducive to collective security, are based on fairness and take into account the interests of each side.
- 2.** All systems of global collective security now lie in ruins. There are no longer any international security guarantees at all. The entity that destroyed them has a name: the United States of America.

- 3.** The builders of the New World Order have failed, having built a sand castle. Whether or not a New World Order of any sort is to be built is not just Russia's decision, but it is a decision that will not be made without Russia.
- 4.** Russia favours a conservative approach to introducing innovations into the social order, but is not opposed to investigating and discussing such innovations to see if introducing any of them might be justified.
- 5.** Russia has no intention of going fishing in the murky waters created by America's ever-expanding "empire of chaos", and has no interest in building a new empire of her own (this is unnecessary; Russia's challenges lie in developing her already vast territory). Neither is Russia willing to act as a saviour of the world, as she has in the past.
- 6.** Russia will not attempt to reformat the world in her own image, but neither will she allow anyone to reformat her in their image. Russia will not close herself off from the world, but anyone who tries to close her off from the world will be sure to reap a whirlwind.
- 7.** Russia does not wish for the chaos to spread. She does not want war, and has no intention of starting one. However, today Russia sees the outbreak of global war as almost inevitable, is prepared for it and is continuing to prepare for it. Russia does not fear war.
- 8.** Russia does not intend to take an active role in thwarting those who are still attempting to construct their New World Order—until their efforts start to impinge on Russia's key interests. Russia would prefer to stand by and watch them give themselves as many lumps as their poor heads can take. But those who manage to drag Russia into this process, through disregard for her interests, will be taught the true meaning of pain.
- 9.** In her external and, even more so, internal politics, Russia's power will rely not on the elites and their back-room dealing but on the will of the people.

I would like to add a 10th point.

- 10.** There is still a chance to construct a New World Order that will avoid a world war. This New World Order must of necessity include the United States, but can only do so on the same terms as everyone else, i.e., subject to international law and international agreements, refraining from all unilateral action and in full respect of the sovereignty of other nations.



To sum it all up, playtime is over. Children, put away your toys. Now is the time for the adults to make decisions. Russia is ready for this. Is the world?

(Source: Cluborlov Blogspot, 29 October 2014, <http://tinyurl.com/l365w5z>.)



# Project Censored's Top 25 News Stories

Continuing a tradition going back to 1976, the Project Censored team has selected and judged the most important American and international news stories of 2013-2014 that should have been given more attention by the US corporate media.

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## 1. Ocean Acidification Increasing at Unprecedented Rate

It's well known that burning fossil fuels in the form of coal, oil and natural gas releases carbon dioxide (CO<sub>2</sub>) into the air. Less understood is that a quarter of this carbon dioxide—about 20 trillion pounds every year—is absorbed by oceans. Craig Welch, writing for the *Seattle Times*, and others reported that this carbon dioxide is changing the ocean's chemistry faster than at any time in our history, in ways that have potentially devastating consequences for both ocean life and for humans who depend on the world's fisheries as vital sources of protein and livelihood.

When CO<sub>2</sub> mixes with seawater, it lowers the pH levels of the water, making it more acidic and sour. Known as ocean acidification, this phenomenon in turn erodes some animals' shells and skeletons and robs the water of ingredients that those animals require for healthy development. According to findings from the 2013 Arctic Ocean Acidification Assessment, the average acidity of surface ocean waters worldwide is more than 30 per cent greater than at the start of the Industrial Revolution. However, the impacts of ocean acidification are not limited to the Arctic and Antarctic oceans.

As Eli Kintisch reported for *Science* magazine, researchers have documented impacts to tiny marine snails in the Pacific Ocean along the West Coast of North America. Normally, pteropods have smooth shells. As Kintisch described, a study led by Dr Nina Bednarsek of the National Oceanic and Atmospheric Administration found that pteropods from 13 coastal sites between Washington state and southern California had pitted shells. In an article published in the *Proceedings of the Royal Society B*, Bednarsek and her colleagues reported that more than half of the shells they collected showed signs of dissolving, which made the shells look like "cauliflower" or "sandpaper". These findings are consistent with previous laboratory studies which showed that, as seawater becomes more acidic, the change disrupts the shell formation process in young pteropods and dissolves already formed shells in mature ones. Previous studies, Kintisch reported, document that shell damage makes it harder for pteropods and other invertebrates to "fight infection, maintain metabolic chemistry, defend themselves against predators, and control buoyancy".

Scientists initially believed that fish would not be directly affected by ocean acidification, but recent research indicates otherwise. From clownfish off the coast of Papua New Guinea to walleye pollock, scientists have found that exposure to high levels of carbon dioxide scramble fish's sense of smell, hearing and sight.

Though fish are excellent at altering their blood chemistry to accommodate changing seas, elevated CO<sub>2</sub> levels disrupt the brain signalling of many fish. Baby clownfish exposed to high levels of CO<sub>2</sub> were five times more likely to die when placed back into the wild.

## 2. Top 10 US Aid Recipients All Practise Torture

The top 10 nations slated to receive US foreign assistance in fiscal year 2014 all practise torture and are responsible for major human rights abuses. Daniel Wickham based this conclusion on a combination of projected foreign assistance figures from a January 2013 report by the Congressional Research Service and findings on torture reported independently by Amnesty International, Human Rights Watch and other major human rights organisations.

The Congressional Research Service report, prepared for the members and committees of Congress, indicated the projected fiscal year 2014 budgets for US foreign assistance by country. According to this report, the top 10 countries and their expected assistance are:

1. Israel \$3,100,000,000
2. Afghanistan \$2,200,000,000
3. Egypt \$1,600,000,000

4. Pakistan	\$1,200,000,000
5. Nigeria	\$ 693,000,000
6. Jordan	\$ 671,000,000
7. Iraq	\$ 573,000,000
8. Kenya	\$ 564,000,000
9. Tanzania	\$ 553,000,000
10. Uganda	\$ 456,000,000

Wickham reported that each of the listed countries is accused of torturing people in the last year, and at least half are reported to be doing so on a massive scale. For example, Israel, the top recipient of US financial assistance, has been accused of committing major human rights abuses over the last year, including the torture of Palestinian children. A recent report by the Public Committee Against Torture in Israel described how detained children "suspected of minor crimes" have been sexually assaulted by Israeli security forces and kept in outdoor cages during the winter.

It found that "74 per cent [of Palestinian child detainees] experience physical violence during arrest, transfer or interrogation".

A United Nations report indicated that torture is "widespread" in Afghanistan, while Amnesty International documented torture as a "common" practice in Iraq and an "abysmal" human rights situation in Egypt. Human Rights Watch reported that torture is practised with "near-total impunity" in Jordan.

### **3. WikiLeaks Revelations on Trans-Pacific Partnership Ignored by Corporate Media**

On 13 November 2013, WikiLeaks published a section of a trade agreement called the TransPacific Partnership (TPP) Treaty. On the surface, the treaty is meant to facilitate trade among Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States and Vietnam. However, there are a number of red flags surrounding the agreement.

Eight hundred million people, and one-third of all world trade, stand to be affected by the treaty—and yet only three people from each member nation have access to the entire document. Meanwhile, "around 700 cleared advisers", representing big oil, pharmaceutical and entertainment companies, are involved in the writing and negotiations of the treaty.

The influence of these companies is clear, as large sections of the proposal involve corporate law and intellectual property rights rather than free trade. Corporations could gain the ability to sue governments not only for loss but for prospective loss. At the same time, patents and copyrights would see more protection. This means longer patents, leading to less access to generic drugs, and a lockdown on Internet content.

The *Washington Post* was alone among the major establishment press in covering the WikiLeaks revelations about the TPP. Timothy B. Lee reported that the intellectual property section of the treaty is a "wish list" for Hollywood and the pharmaceutical industry and speculated whether the leak might "derail Obama's trade agenda". However, the *Post* relegated even this relatively superficial and US-focused perspective to its online blog. Other major papers, including the *New York Times*, the *Los Angeles Times* and the *Wall Street Journal*, passed on this story of far-reaching global import.

### **4. Corporate Internet Providers Threaten Net Neutrality**

In September 2013, the federal appeals court of Washington, DC, began a crucial case brought by Verizon Communications Inc., challenging the Federal Communications Commission's (FCC's) authority to regulate Internet service providers. Under the FCC's current Open Internet Order, service providers such as Verizon cannot charge varying prices or give priority to users who access certain websites or may be able to pay more for faster speeds compared to competitors. Verizon claims that the FCC violates its First Amendment right and that it should have the ability to manage and promote the content that it sees fit.

The FCC has continually ruled that controlling communications is not in the best interest of the public. If the court decides in favour of Verizon and revokes the Open Internet Order, the FCC will have no way to regulate unbiased data access, changing the future for everyday Internet users in the 21st century.

### **5. Bankers Back on Wall Street Despite Major Crimes**

A story spanning a decade has come to an unfortunate yet unsurprising end. Three former General Electric bankers — Dominick Carollo, Steven Goldberg and Peter Grimm— had been convicted in 2012 for rigging auctions of municipal bonds, essentially stealing from projects intended to build public schools, hospitals, libraries and nursing homes in virtually every US state.

However, in November 2013, those convictions were reversed on a technicality. Because it took federal prosecutors

so long to build the massive case, the statute of limitations ran out. The three men were released from prison the next day—just in time, as a defence attorney noted, to be home for Thanksgiving dinner.

These men were part of a decade-long scheme that bilked cities and towns of funds for public-works projects by paying kickbacks to brokers and manipulating bids. Between August 1999 and November 2006, Carollo, Goldberg and Grimm participated in countless rigged bids via telephone. They used a secret language and code words to keep their underground business low-key. Prosecutors accumulated over 570,000 recorded phone conversations that directly linked the men to fraudulent activity. Evidence at trial established that they cost municipalities around the country millions of dollars.

This type of white-collar immorality is a major issue because cash-strapped municipalities could have used the money to provide essential services. Matt Taibbi of *Rolling Stone* [21 June 2012] called this fraud "the equivalent of robbing...a church fund to pay for lap dances". Taibbi, however, is among a few reporters— including Paul Burton and Jonathan Hemmerdinger of the *Bond Buyer*—to consistently inform the public on these crimes and to point out the perhaps insurmountable obstacles faced by the US Department of Justice in getting convictions.

## **6. The Deep State**

It is no secret that concerned citizens are condemning the US government's lack of transparency, accountability and honest constituent representation. Reporting for Moyers & Company, Mike Lofgren, who was a congressional staff member for 28 years, specialising in national security, addressed the issue of the "Deep State" that undemocratically orchestrates unchecked private agendas while corporate media distract the public's attention by focusing on traditional Washington partisan politics. Lofgren contended that, although the Deep State is "neither omniscient nor invincible", it is a "relentlessly well entrenched", "hybrid association of elements of government and parts of top-level finance and industry that is effectively able to govern the United States without reference to the consent of the governed".

Exploiting the world's resources and governments with criminal impunity, a wealthy elite—sporting an estimated US \$32 trillion in tax-exempt offshore havens—is the deep dark secret of plutocratic imperialism, operating behind more visible, privately controlled, government representatives.

Rep. Spencer Bachus, the House Financial Services Committee chairman in 2010, openly flouted constitutional rights when he stated: "[M]y view is that Washington and the regulators are there to serve the banks."

## **7. FBI Dismisses Murder Plot against Occupy Leaders as NSA and Big Business Crack Down on Dissent**

In October 2011, when the Occupy movement arrived in Houston, Texas, protesters were subject to local and federal surveillance, infiltration by police provocateurs and police assault. As Dave Lindorff reported for WhoWhatWhy, a document obtained in December 2012 from the Houston FBI office shows that the agency was aware of a plot to assassinate Occupy movement leaders—and did nothing about it.

The document, obtained as part of a Freedom of Information Act (FOIA) request filed by the Washington DC-based Partnership for Civil Justice Fund, reads in part: "An identified [DELETED] as of October planned to engage in sniper attacks against protestors [sic] in Houston, Texas if deemed necessary. An identified [DELETED] had received intelligence that indicated the protestors in New York and Seattle planned similar protests in Houston, Dallas, San Antonio and Austin, Texas. [DELETED] planned to gather intelligence against the leaders of the protest groups and obtain photographs, then formulate a plan to kill the leadership via suppressed sniper rifles."

As of June 2013, Lindorff reported, the FBI knew the identity of the person(s) who planned the sniper attacks but had not released any names. Occupy Houston activists have speculated that the wording "if deemed necessary" might indicate that the unidentified plotter was an organisation such as the police or a private security group.

Documents from the FBI and the Department of Homeland Security identify Occupy as a "terrorist" activity. The FBI has a record of orchestrating attacks on citizen organisations deemed to be threats. For example, the Church Committee hearings of the 1970s revealed that the FBI orchestrated local police attacks (in Chicago, San Francisco and New York) on leaders of the Black Panther Party.

Alex Kane of AlterNet wrote that a report by Beau Hodai provided "an eye-opening look into how US counterterrorism agencies monitored the Occupy movement in 2011 and 2012". Government documents, obtained by the Center for Media and Democracy and DBA Press from the National Security Agency and other government offices, revealed "a grim mosaic of counterterrorism' agency operations" and negative attitudes towards activists and other citizens.

The upshot, Hodai reported, is "the wholesale criminalization of tens of thousands, if not hundreds of thousands, of American citizens who have dared to voice opposition to what is increasingly viewed as the undue influence of private corporate/financial interests in the functions of public government".

## **8. Corporate News Ignores Connections Between Extreme Weather and Global Warming**

A study by Fairness & Accuracy In Reporting (FAIR) found that extreme weather events in 2013 resulted in 450 news segments, of which only 16 mentioned climate change.

As for specific evening news shows, *CBS Evening News* used terms like "global warming" and "greenhouse gases" in only two of 114 extreme weather reports. ABC *World News* mentioned "climate change" in eight reports out of 200, and NBC *Nightly News* mentioned it in six reports out of one hundred and thirty-six. There was also a CBS report on the unsupported notion that there had been a "pause" in global warming.

There continues to be serious scientific debate on the extent to which current weather events and climate change should be linked. Nonetheless, the majority of the American public still makes the connection between climate and weather, despite the media's failure to report on it.

## **9. US Media Hypocrisy in Covering Ukraine Crisis**

Russia's occupation of Crimea has caused US corporate media and government officials to call for a stern US response. Secretary of State John Kerry declaimed the Russian intervention as "a 19th-century act in the 21st century". What Russia's US critics seem to forget, Robert Parry reported, is the United States' own history of overthrowing democratic governments, including the illegal invasion of Iraq, which Kerry supported.

US corporate media has also failed to acknowledge that Putin was suggesting the occupation of Kiev after a coup led at least partly by neo-Nazis—conditions arguably less criminal than the US invasion of Iraq, which the US legitimised with false claims.

"If Putin is violating international law by sending Russian troops into the Crimea after a violent coup spearheaded by neo-Nazi militias ousted Ukraine's democratically elected president," wrote Parry, "then why hasn't the US government turned over George W. Bush, Dick Cheney and indeed John Kerry to the International Criminal Court for their far more criminal invasion of Iraq?" (In a similar vein, Noam Chomsky has written about the US occupation of Guantanamo in Cuba as another instance of the contradiction between the US position towards Russia and its own lack of respect for national sovereignty.)

Further, Ukraine's democratically elected president, Viktor Yanukovich, fled Kiev for his life after the coup and sought Russia's help quelling the neo-Nazi groups in Ukraine, citing their oppression of the country's native Russian population. It was only after this that Putin requested the Russian parliament's permission to deploy Russian troops to stop the expansion of neo-Nazi control to areas that have deep historical ties to Russia.

Nevertheless, while downplaying these details, US corporate media accuse Russia of violating international law. "Thus, the overriding hypocrisy of the *Washington Post*, Secretary Kerry and indeed nearly all of Official Washington is their insistence that the United States actually promotes the principle of democracy or, for that matter, the rule of international law," wrote Parry. "Those are at best situational ethics when it comes to advancing US interests around the world." In a subsequent report, Parry wrote that, despite evidence to the contrary, US policy-makers and corporate media have intentionally neglected to report that neo-Nazi militias played a central role in the 22 February 2014 overthrow of President Viktor Yanukovich. Parry reported: "The US media's take on the Ukraine crisis is that a 'democratic revolution' ousted President Viktor Yanukovich, followed by a 'legitimate' change of government. So, to mention the key role played by neo-Nazi militias in the putsch or to note that Yanukovich was democratically elected—and then illegally deposed—gets you dismissed as a Russian propagandist."

A resurgence of Cold War rhetoric may make better sense against the backdrop of geopolitical oil interests, as analysed by Nafeez Ahmed. As he reported, Ukraine finds itself between the two superpowers and their ongoing struggle for influence in the Eurasian oil market. Russia's Gazprom Company already controls roughly one-fifth of the world's oil supply. In 2013, Ukraine signed a \$10 billion shale gas deal with US-based Chevron in the hope of ending its dependency on Russian gas by 2020. Professor R. Craig Nation, director of Russian and Eurasian Studies at the US Army War College, stated in a NATO publication:

"Ukraine is increasingly perceived to be critically situated in the emerging battle to dominate energy transport corridors linking the oil and natural gas reserves of the Caspian basin to European markets."

## **10. WHO Suppresses Report on Iraqi Cancers and Birth Defects**

In contradiction with its own mandate, the World Health Organization (WHO) continues to suppress evidence uncovered in Iraq that US military use of depleted uranium (DU) and other weapons have not only killed many civilians but also are the cause of an epidemic of birth defects and other public health issues. By refusing to release the report publicly, the WHO effectively protects the US military and its government from accountability for the resulting health catastrophe.

A WHO and Iraq Ministry of Health report on cancers and birth defects was set to be released in November 2012, but officials have indefinitely delayed that report's release. To this date [13 September 2013], Denis Halliday wrote, the WHO report remains "classified". According to the WHO, the report's release has been delayed because its analysis needs to be evaluated by a "team of independent scientists".

Meanwhile, the reality in Iraq, Mozhgan Savabieasfahani contended, is that "Iraq is poisoned". For example, citing a peer-reviewed study that she helped conduct, Savabieasfahani wrote: "Thirty-five million Iraqis wake up every morning to a living nightmare of childhood cancers, adult cancers and birth defects. Familial cancers, cluster cancers and multiple cancers in the same individual have become frequent in Iraq." Why, then, does the WHO refuse to release its study? "One possible answer," she wrote, "was suggested on May 26 by the *Guardian*." In that article, John Pilger reported the recent comments of Hans von Sponeck, the former Assistant Secretary-General of the United Nations (see <http://tinyurl.com/k82648a>).

### **11. Wealthy Donors and Corporations Set Think-Tanks' Agendas**

Think-tanks provide information and analysis to policy-makers and the public, making them increasingly influential institutions in our political process. However, many think-tanks—including the Brookings Institution, Heritage Foundation, American Enterprise Institute, Cato Institute and the RAND Corporation, among others—receive significant financial backing from extremely wealthy corporations and/or individuals. Because the law does not require public disclosure of donors' identities, these relationships raise the issue of whether think-tanks' analyses and recommendations are "tainted by donor agendas", according to a July 2013 report by Fairness & Accuracy In Reporting (FAIR).

In its study of the nation's top 25 think-tanks, FAIR finds that all have received money from corporations, foundations, government or major individual donors. In many cases, these donors not only get a tax deduction for their contributions, but they also can influence the think-tank's formulation of policy.

FAIR found that almost two-thirds of the top 25 think-tanks have taken money from oil companies, with 13 funded by ExxonMobil, nine by Chevron and four by Shell. Representatives of Big Energy also serve as members of many think-tanks' boards. Similarly, half of the top 25 think-tanks receive money from weapons manufacturers.

### **12. Pentagon Awash in Money Despite Audit Problems**

US Congress is expanding the Pentagon's 2014 budget by \$32 billion. The Pentagon currently receives over \$600 billion when its current budget is combined with supplemental war funding. One out of every five US tax dollars is spent on defence, cumulatively more than the total of the next 10 countries' defence budgets combined. Where does the money go? "The exact answer is a mystery," wrote Dave Gilson for *Mother Jones*. "That's because the Pentagon's books are a complete mess."

As the Government Accountability Office dryly noted, the Pentagon has "serious financial management problems" that render its financial statements "inauditable".

Despite a 1997 requirement that federal agencies submit to annual audits, the Pentagon, Gilson reported, claims it will not "achieve audit readiness" until 2017.

Lack of budgetary accountability has led to risky investments by the Pentagon, Gilson noted, including the F-35 Joint Strike Fighter, for example. As Gilson summarised, the F-35 program is "years behind schedule, hugely over budget, and plagued with problems that have earned them a reputation as the biggest defense boondoggle in history".

### **13. Lawsuit Challenges Nuclear Power Industry Immunity from Liability in Nuclear Accidents**

A lawsuit filed by lawyers on behalf of 1,415 plaintiffs, including 38 residents of Fukushima and 357 persons from outside Japan, holds not only the Tokyo Electric Power Company (TEPCO) but also Toshiba, Hitachi and General Electric (GE) responsible for the 2011 meltdown of the Fukushima Daiichi nuclear power plant. Historically, manufacturers and operators of nuclear power plants have been granted immunity from liability for accidents because no insurance company anywhere in the world would agree to insure the power plants when the industry first developed. As NSNBC International reported, the Fukushima case is a "landmark challenge" to nuclear power plant manufacturers' immunity from liability in nuclear accidents.

In the 1970s, Toshiba, Hitachi and GE manufactured the tanks developed to hold radioactive fluids.

Among the evidence in support of the plaintiffs' case is a report by Japan's Fisheries Research Agency that found radiation levels in sea life south of the plant to be 124 times more than the threshold considered safe for human consumption. The Japanese government and TEPCO have sought to keep the situation under wraps, and the public is largely unaware of the nuclear power industry's irresponsible actions. Inaccurate reports of the radiation damage from TEPCO, along with inadequate manpower to deal with the crisis, have resulted in poor attempts to reverse the radiation damage that resulted from the meltdown of TEPCO's Fukushima Daiichi nuclear power plant following the March 2011 tsunami.

A senior adviser for the Fukushima clean-up, Lady (Barbara) Judge has said that foreign assistance in dealing with the nuclear clean-up is needed. However, TEPCO has withheld accurate radiation readings of the leaks, making foreign assistance impossible. The resulting poor clean-up efforts have further damaged ecosystems around

Fukushima, without providing proper supportive action to repair them.

GE is not being held accountable for its role in the Fukushima disaster, Chris Carrington reported, because of its ties to the Obama administration. In 2009, General Electric CEO Jeffrey Immelt was appointed by President Barack Obama to lead the Economic Recovery Advisory Board. Five of the six nuclear reactors used at Fukushima were GE Mark I Boiling Water Reactor vessels; three of these were not only supplied but also built by General Electric. Since 1972, nuclear reactors of the type have been considered safety risks due to their particular vulnerability to explosion and rupture from hydrogen build-up.

#### **14. Accumulating Evidence of Ongoing Wireless Technology Health Hazards**

Wireless phones emit radiofrequency electromagnetic fields (RF-EMFs) when in use. In May 2011, after the consideration of laboratory findings, studies of long-term use of wireless phones and data on the incidence of brain tumours, the World Health Organization (WHO) determined RF-EMF to be a "possible" human carcinogen. Other studies have associated long-term mobile and cordless phone use with glioma and acoustic neuroma.

In October 2013, Powerwatch, a UK-based watchdog focused on the health risks posed by electromagnetic fields, reported that two new research articles provide further evidence of mobile phone use as a cause of increased brain tumours.

The first paper showed that RF-EMF exposure from mobile and cordless phones should be regarded as a class 1 human carcinogen, as defined by the WHO's International Agency for Research on Cancer (IARC). The studies' authors concluded that current exposure guidelines are in urgent need of revision. (See Hardell, L. and Carlberg, M., *Rev. Env. Health* 2013 Nov; 28[3]:97-106.)

The second study aimed to assess "the relationship between especially long-term (>10 years) use of wireless phones and the development of malignant brain tumours".

This study "confirmed previous results of an association between mobile and cordless phone use and malignant brain tumours" and supported "the hypothesis that RF-EMFs play a role both in the initiation and promotion stages of carcinogenesis"—in other words, the process by which normal cells are transformed into cancer cells. (See Hardell, L. *et al*, *Int. J. Oncol.* 2013 Sep 24; 43(6):1833-1845.)

Mobile phones are not the only wireless technology that poses health threats. As James F. Tracy reported, the US has seen a virtual media blackout on the radiation dangers of smart meters. In January 2014, Tracy reported that the IARC has stated that radio frequency electromagnetic fields are "possibly carcinogenic to humans based on an increased risk for glioma, a malignant type of brain cancer, associated with wireless cellphone use".

Smart meters are a central element in the creation of a "smart grid" that President Obama has made a priority. In his article, Tracy wrote that the media blackout is likely intended to keep the public unaware of not only the health dangers associated with smart meters but also potentially hidden agendas, including the meters' potential for "social control. via energy rationing and surveillance". A "more immediate" motivation, he wrote, is "simply profit and continued media monopoly control of public opinion and discourse".

Tracy reported on a content analysis of US newspapers between 31 May 2011, the date when WHO declared RF a class 2B carcinogen, and June 2014. Of the 839 articles published in that time, less than 10 per cent (82 articles) mention both "smart meters" and "carcinogen" or "carcinogenic" in the same report.

Meanwhile, corporate news coverage in the US reassured the public that the Federal Communications Commission had found smart meters to be within its safety standards, that they impose no danger to one's health and that they are environmentally friendly.

#### **15. Reporting Miscarriages, Criminalising Pregnant Women's Bodies**

A proposed bill before the Kansas state legislature would require women to report miscarriages at any stage in pregnancy. This has been described as the first step along the path to criminalising pregnant women's bodies. Under an amendment attached to House Bill 2613, doctors would be required to report all of their patients' miscarriages to the state health department, Tara Culp-Ressler reported for ThinkProgress.

The initial purpose of HB 2613 was to provide an alternative to the state's current stillbirth certificate.

Some parents believe the existing law overemphasises their child's death in a way that is emotionally painful.

Senator Mary Pilcher-Cook, who is among the state's most active and enthusiastic abortion opponents, added the miscarriage-reporting requirement. The bill's original author, Kansas Representative John Doll, subsequently withdrew his support for the legislation.

No other state has enacted a mandatory miscarriage-reporting law, Culp-Ressler reported, although Virginia

considered similar legislation in 2009.

### **16. The Beef Industry's "Feedlot Feedback Loop"**

The beef industry increasingly feeds cattle "poultry litter" scraped from chicken coop floors, a practice that, as Brad Jacobson reported for OnEarth, "risks the spread of mad cow disease—yet the FDA [Food and Drug Administration] has done nothing to stop it". After a string of bovine spongiform encephalopathy (BSE, or "mad cow disease") scares in the 1980s and 1990s, many precautions were taken to prevent further outbreaks. BSE affects humans slowly but fatally, and cooking beef thoroughly does not get rid of the prion proteins.

In 1997, the FDA made it illegal to feed dead cows to living cows—the main cause of the disease. In response to those laws, the beef industry teamed up with the poultry industry to exploit a major loophole in the 1997 law. Jacobson describes a "Feedlot Feedback Loop": first, the poultry industry feeds the dead remains of cattle to chickens and other poultry; the mess created by poultry, known as "litter", is then sold to the cattle producer who feed it to cattle that the public eventually consumes as beef.

In early 2003, the FDA proposed to ban the use of poultry litter as cattle feed. Big Agriculture opposed this, and the FDA revised its policy. Instead of a permanent ban, the FDA required chicken-feed manufacturers to agree that they would leave out the riskiest, most infectious bovine tissues.

### **17. 2016 Will Find Gaza Out of Drinking Water**

In Gaza, up to 1.7 million Palestinians currently live without clean drinking water. With no perennial streams and low rainfall, Gaza relies on a single aquifer for all of its fresh water. The coastal aquifer, Zander Swinburne reported, is contaminated with sewage, chemicals and seawater.



Palestinian children fill plastic bottles and water containers with drinking water from a public tap in Jabalia in the norther Gaza Strip. (Source NPR.org)

The Palestinian Water Authority recently determined that 95 per cent of the water in Gaza does not meet WHO standards for human consumption. The polluted water causes chronic health problems and contributes to high rates of child mortality. One study estimated that 26 per cent of disease in Gaza results from contaminated water supplies. The crippling Egyptian-Israeli blockade on Gaza has exacerbated the problem.

A recent United Nations report warned that the water situation for Palestinians in Gaza is "critical". According to that report, "[t]he aquifer could become unusable as early as 2016, with the damage irreversible by 2020".

The United Nations estimates that over 80 per cent of Gazans buy their drinking water, with some families paying as much as a third of their household income, according to June Kunugi, a special representative of the UN childrens fund UNICEF

Palestinians purchase more than a quarter of their water from Israel's national water company, Mekorot, Al Jazeera reported.

Mekorot sells Gaza 4.2 million cubic metres of water annually.

Contaminated water also affects agriculture in Gaza. For example, high levels of salinity mean that most citrus crops can no longer be grown.

The blockade of Gaza intensifies the water problems. Materials needed for repairs of water and waste facilities cannot be imported. Lack of reliable electricity has forced 85 per cent of agricultural wells out of operation, contributing to the risk of drought for more than 30,000 square acres of crops.

## **18. National Database of Police Killings Aims for Accountability**

Although the Federal Bureau of Investigation tracks how many police officers die in the line of duty, it keeps no such record for how many civilians are killed by police each year. Recognising a significant gap in the public records of civilian deaths at the hands of law enforcement officers, D. Brian Burghart, the editor of the *Reno News & Review* and a journalism instructor at the University of Nevada, decided to create a public database. "In 2014, how could we not know how many people our government kills on our streets every year,"<sup>1</sup> he wondered. So he launched Fatal Encounters, a website that, as Bethania Palma Markus reported for Truthout, "tracks and tallies when cops take lives and invites the public to help build the database". Burghart has compiled a list of police agencies across the USA to facilitate public-record requests about fatal incidents.

## **19. Agribusiness Giants Attempt to Silence and Discredit Scientists Whose Research Reveals Herbicides' Health Threats**

Independent journalists including E. Ann Clark, James Corbett, Rachel Aviv and those at *Democracy Now!* documented how agriculture giants Monsanto and Syngenta have attempted to silence the findings and destroy the reputations of scientists whose research shows that the companies' herbicides pose serious threats to health.

In September 2012, Dr Gilles-Eric Seralini published research findings in the peer-reviewed *Journal of Food and Chemical Toxicology* which showed the toxic impact of Monsanto's herbicide and genetically modified (GM) corn—including adverse health effects on rats. However, after publication, the journal made the unprecedented decision to retract the study. Journal editor Dr A. Wallace Hayes admitted that none of the established criteria for retracting a study applied to the Seralini paper.

However, as Clark and Corbett reported, a new connection between the journal and Monsanto might account for the retraction, as well as another retraction of a similar study from Brazil that demonstrated the toxic effects on mice of an insecticide that forms the basis of Bt GM crops. In May 2013, the journal created a new position, Associate Editor for Biotechnology, and selected Richard E. Goodman, from the University of Nebraska, to fill it and preside over such retractions. Goodman worked in regulatory sciences for Monsanto from 1997 to 2004.

Monsanto is not alone in trying to silence its critics. After 15 years of research, Tyrone Hayes, Professor of Integrative Biology at the University of California, Berkeley, determined that Syngenta's herbicide atrazine causes sexual abnormalities in frogs and could cause the same problems in humans. The company now known as Syngenta hired Hayes to research atrazine in 1997; but when his findings ran contrary to their interests, they refused to allow him to publish and instead worked to discredit him. He left Syngenta in 2001, but continued to research the harmful effects of atrazine on the endocrine system.

## **20. Estonia a Global Example of E-Government, Digital Freedom, Privacy and Security**

Since Estonia regained independence in 1991, its government has sought to redesign the nation's entire information infrastructure with goals of openness, privacy and security.

The technology platform that Estonia built to serve its citizens sets an example for the rest of the world. Each citizen has one identification number to use across all systems, from paper passport to bank records to any government office or medical care. This includes giving electronic signatures, filing taxes and voting. Estonians elect their parliament online, and get their tax refunds back in two days.

The liquid movement of data along with privacy and security measures are of primary importance. Citizens have the ability to choose who can see their information. A citizen cannot block the state from seeing their data, but they can see who has accessed their data and file an enquiry to have an official fired if their information is accessed without valid reason.

## **21. Questioning the Charter School Hype**

Charter schools have been heralded as the antidote to "failed" public schools, especially in poor urban communities of African American and Latino/a students. Politicians and celebrities alike now advocate charter schools and preside over their openings. However, as Salon, AlterNet and other independent media outlets have reported, charter schools have come under fire for not fulfilling the roles or achieving the results that their proponents have claimed.

Recent news reports have indicated that, instead of providing positive teaching and preparing children for the future, charter schools are subjecting students to padded cells, public shaming and embarrassment, poor instruction and the negative consequences of financial corruption.

## **22. Corporate News Media Understate Rape, Sexual Violence**

Media analysts observe how journalists refrain from using the word "rape" to describe incidents of sexual assault. Instead, news outlets downplay the humiliation and cruelty entailed in these acts by referring to them as "sex



crimes", "inappropriate sexual activity" or "forced sex", even though such acts are legally recognised as "rape".

A report released by Legal Momentum, a New York City-based feminist advocacy law group, titled "Raped or 'Seduced'? How Language Helps Shape Our Response to Sexual Violence", addressed what it terms the "linguistic avoidance" of such concerns.

### **23. Number of US Prison Inmates Serving Life Sentences Hits New Record**

A report released by The Sentencing Project, a Washington, DC-based nonprofit criminal justice advocacy group, revealed that the number of prisoners serving life sentences in the US state and federal prisons reached a new record of close to 160,000 in 2012. Of these, 49,000 are serving life without the possibility of parole, an increase of 22.2 per cent since 2008. The study's findings place in striking context the figures promoted by the federal government, which indicate a reduction in the overall number of prisoners in federal and state facilities from 1.62 million to 1.57 million between 2009 and 2012.

Dr Ashley Nellis, senior research analyst with The Sentencing Project, argued that the rise in prisoners serving life sentences has to do with political posturing over "tough on crime" measures.

### **24. Restorative Justice Turns Violent Schools Around**

Last year when American Paradigm Schools took over Philadelphia's infamous, failing, John Paul Jones Middle School, they did something that many people would find inconceivable.

Rather than beef up the already heavy security to ensure safety and restore order, American Paradigm stripped it away. During renovations, they removed metal detectors and window bars. The police predicted chaos. But, instead, new numbers seem to show that in a single year the number of serious incidents fell by 90 per cent.

The school was known as "Jones Jail" for its reputation of violence and disorder, and because the building physically resembled a youth correctional facility. Situated in the Kensington section of the city, it drew students from the heart of a desperately poor hub of injection drug-users and street-level prostitution where gun-violence rates are off the charts.

School officials stated it wasn't just the humanising physical makeover of the facility that helped. They also credit the Alternatives to Violence Project (AVP), a noncoercive, nonviolent conflict-resolution regimen originally used in prison settings and later adapted to violent schools. AVP, when tailored to school settings, emphasises student empowerment, relationship building and anger management over institutional control and surveillance.

### **25. "Chaptered Out": US Military Seeks to Balance Budget on Backs of Disabled Veterans**

The US military has been engaged in a policy of forcing wounded and disabled veterans out of service to avoid paying benefits and to make room for new able-bodied recruits.

Identifying injured combat soldiers as delinquent and negligent has led to a practice called "chaptering out", which results in those soldiers being forced to leave the military without an honourable discharge. Because of this, thousands of soldiers have been chaptered out, losing federally sponsored benefits including health care, unemployment and educational programs.

# The Dynamics of Alternative Sleep Cycles

There are several techniques that we can use to ensure we have the sleep we need without devoting a block of around eight hours to the task and wasting so much precious time. Before the 1800s, our ancestors would have two separate sleeps at night.

by Joe Martino  
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Website: <http://www.Collective-Evolution.com>

## We Don't Need 7-10 Hours of Sleep Per Night!

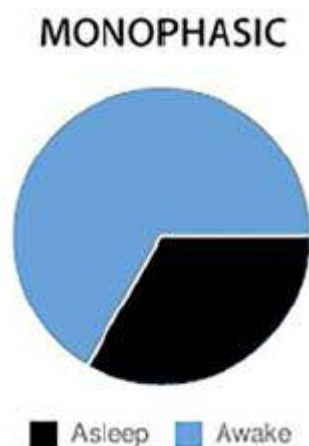
The average person requires 7-10 hours of sleep per night, according to the US National Sleep Foundation. But is it possible that using different sleep cycles, where the benefits of sleep are still achieved, we can sleep less—much less? Most of us are familiar with what is called a *monophasic* sleep cycle. This cycle is used by most people as it's what we hear about and learn the most. For some, this cycle is practical although inefficient. The fact is, there are four other sleep cycles that can provide all the benefits of sleep, while you sleep much less. For example, *polyphasic* sleep cycles utilise multiple naps.

For me, this is good news as I am not a huge fan of sleeping for long periods of time. Why? Generally there are better things to do! Not only that, but sleeping has always been something that I wish I could do when I felt like it and not because I'm supposed to. If I could spend less time lying awake at night trying to sleep, then great.

[Editor's Note: Much of the following information is sourced from the Polyphasic Society's website, <http://www.polyphasicociety.com>.]

## Monophasic Sleep

The Monophasic cycle consists of various stages of sleep, with REM (rapid eye movement) being the most important. A person using a monophasic cycle might go to bed at night (around 11.00 pm), sleep for 7-10 hours and then wake up in the morning. Of course, if one worked a night shift then the timing would be swapped. Generally, it takes the body about 45-75 minutes to get into REM sleep, which is the cycle responsible for various brain and bodily functions that are beneficial to health. Although scientists don't understand exactly why we need sleep, it has been recognised, while observing animals, that sleep is needed for survival.



Although most people will have an average of around eight hours of sleep at night, which is about a third of the average human life-span, few people actually know anything about sleep. They might suffer from insomnia, sleep apnoea or extreme fatigue even after adequate sleep, but they do not question sleep itself. Many believe that they "do not dream", when in reality they simply do not remember their dreams. Because sleep is essential to human function and because so much time is dedicated to it, it is important to learn as much about sleep as possible.

Sleep is not simply one large span of time in which the body and brain "shut off". Instead, the brain goes through cycles. Sleep is made up of multiples of 80-120-minute cycles, 90 being the average of all cumulative sleep cycles.

The first stage of sleep is very light sleep and constitutes 4-5 per cent of a typical cycle. Muscle activity is slowing down, but there can be occasional twitching. The eyes are moving slowly under the eyelids. When you see a person

moving about in bed, they are probably in light sleep.

In the second stage of sleep, your breathing and heart rate slow. A slight decrease in body temperature occurs. This is still what you would call "light sleep", and it constitutes a whopping 45-55 per cent of a typical monophasic cycle.

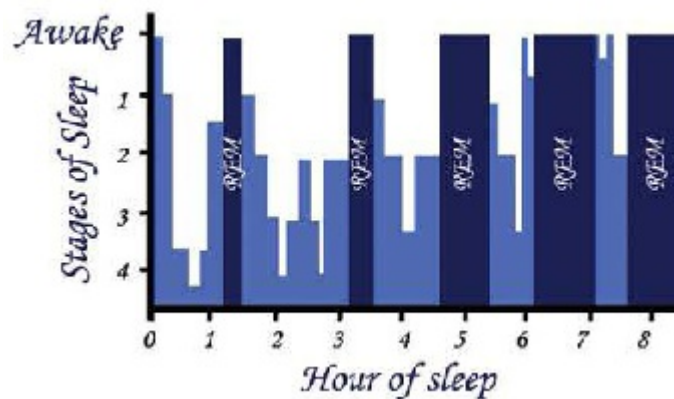
The third stage of sleep is when deep sleep begins. The brain begins to generate slow delta waves. This stage constitutes 4-6 per cent of a typical cycle.

The fourth stage of sleep is very deep sleep. Breathing is rhythmic and muscle movement is very limited. The brain is producing delta waves. Stage four comprises 12-15 per cent of the cycle. Being woken up at this point will produce extreme fatigue and confusion. Stage-four sleep is noncholinergic, so if you do dream during this stage you will not remember.

The fifth and final stage of sleep is REM sleep. Brain waves speed up and dreaming occurs.

If a person is completely still while sleeping, has shallow breathing and is rapidly moving their eyes under their eyelids, they are in REM sleep. Males will also develop penile erections during this stage.

One typically has four to seven dreams per night, but the brain ceases to produce a hormone called norepinephrine, as happens during intoxication, so it is difficult to remember dreams. REM is a high-choline phase of sleep, but because people are not active in between periods of REM at night, choline in the brain is low, which also contributes to difficulty remembering dreams.



Graph showing one's passage through different cycles in a monophasic sleep cycle. A person will get most of their deep sleep in the first three hours, and most of their REM sleep in the last three. (Source: Polyphasic Society)

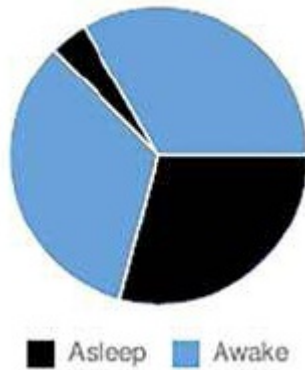
Monophasic sleep can be healthy, but as we get older it only gets worse trying to force a monophasic sleep. Some people simply develop insomnia.

### **Biphasic Sleep or Siesta Sleep**

The Biphasic (or Byphasic) cycle, also called the Siesta, is the most common of polyphasic cycles as it can be viewed as the most practical.

This cycle consists of one 5-6-hour sleep and one 20-, 60- or 90-minute nap per day.

## BYPHASIC



There is now enough scientific research to show that this cycle, compared to the monophasic cycle, is not only better for your health but can also lead to better moods, a decrease in stress, an increase in your ability to be alert and a rise in overall productivity. Some research even states that this cycle can make you smarter!

Siesta sleep schedules involve sleeping in two separate segments throughout the day: once at night, and a nap in the middle of the day.

The "power siesta" involves sleeping for 20 minutes in the middle of the day and 5-6 hours at night (this varies between individuals).

The more common "long siesta" involves sleeping for 60-90 minutes during the day and 4.5-5.5 hours at night.

These two siesta schedules can be seen in various cultures throughout the world. Taking a siesta is a cultural right of the Latinos and other tropical populations, is important to Middle Easterners, and is even a favourite of the Europeans (in England and Germany, and in Spain specifically). The ancient Romans had a regular siesta that was considered to be a physical necessity rather than a luxury, but it is unlikely that they had a health policy that included this, as was the case in Islam.

Both biphasic schedules have been shown in scientific studies to aid learning and cognitive functions significantly. As a bonus, in terms of the most waking time gained per nap taken, biphasic schedules are the most efficient.

There is nothing saying that a 20-minute nap is better than a 90-minute sleep in the middle of the day. Napping for around 20 minutes is healthy. Sleeping for 90 minutes has lots of benefits, too, and is especially great for athletes.

However, napping for 90 minutes too late in the afternoon can have an impact on night-time sleep.

Scientists have long wondered if the midday meal causes sleepiness, but, although insulin change does seem to play a role, the energy drop is driven by our circadian rhythm far more than by our eating habits. There are natural core temperature changes, controlled by your circadian clock, which prepare your body for a sleep-like state.

A nap exaptation (a way to prepare yourself to adapt to a new schedule) can be beneficial for a 20-minute power-siesta to regulate your ultradian rhythm, training you to nap efficiently. The 90-minute sleep schedule can take a few days or a week or two to get used to if you have no napping experience, but it can be easier for some people. The longer you try to nap in the middle of the day (and if you don't drink caffeine), the easier it becomes to nap and the better quality your napping will become.

Some people are naturally 20-minute nappers, and others are naturally 90-minute nappers, while others are both. If one schedule is not working for you, then your sleep architecture may not allow for 20-minute naps, considering that slow-wave sleep (SWS) is homeostatic and your body may try to claim extra in your midday sleep.

Napping in the middle of the day prevents the afternoon "crash". Naps can increase growth hormone secretion, which helps to maintain normal body structure and metabolism, including keeping blood glucose levels stable.

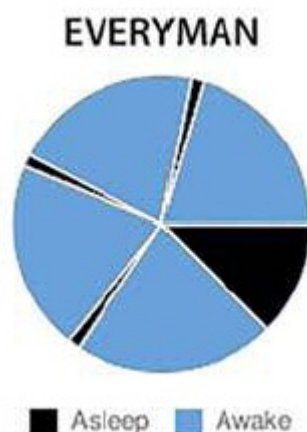
Having naps early in the day does not have a negative impact on night-time sleep.

There is a large amount of evidence that biphasic sleep is much more natural than monophasic sleep.

### **Everyman Sleep**

The Everyman cycle, first named by PureDoxyk [author of *Ubersleep*], is a sleep schedule consisting of one 3.5-

hour core sleep and three 20-minute naps spread out over the day.



The cycle is designed to counteract the natural drops in alertness as dictated by circadian and ultradian rhythms.

A sample schedule commonly used with this cycle is sleeping 9.00 pm-12.30 am, and having naps at 4.10 am, 8.10 am and 2.40 pm. Avoid having a morning core sleep, e.g., 3.00-6.30 am, as during these times it is unlikely that you will get quality slow-wave sleep because your temporary circadian REM pressure is high.

PureDoxyk named the Everyman sleep schedule along with the Uberman sleep schedule (although the Uberman technically came first). The original schedule was a 3.0-hour core sleep with three 20-minute naps spread equidistantly throughout the day, but this has since been refined to a 3.5-hour core sleep with three 20-minute naps spread according to natural drops in alertness that are dictated by circadian and ultradian rhythms.

If you wake up from your core sleep early at the 3.0-hour mark before your alarm, then get up because this means that your two cycles have finished and you will reenter SWS for the 3.5-hour mark if you go back to sleep.

It may be beneficial at the start of your adaptation to have two alarms, one at 3.0 hours and one at 3.5 hours, because if your 3.0-hour alarm goes off and you are in SWS, you will automatically turn it off and go back to sleep (this is called "zombie mode").

Some people simply require more sleep than others. Rather than having a longer core sleep, make one of your naps longer. This means having a 3.5-hour core sleep and a 40-minute first or second nap.

A lot of people start to worry that they don't have good naps or can't even fall asleep for their naps. This will get better with time. Give it a week or two, and you'll eventually start to fall asleep easily.

If for some reason you feel wide awake and/or stressed, you can experiment by trying to move your nap a bit. Often people find it beneficial to have their first nap early (3.0 hours after a core sleep), their second nap 4.0 hours after that, and their third nap 6.0 or 7.0 hours after that. If you don't think that'll help, just lie down and relax.

Even if you can't fall asleep at all, just by resting with your eyes closed for about 20 minutes is almost as good as taking a nap. If you skip it entirely, it'll be much worse.

### **Dymaxion Sleep**

The Dymaxion cycle is said to be the most difficult as it can only be successfully used by certain people.

## DYMAXION



Those with the DEC2 gene, who are called "short sleepers", generally only require about four hours of monophasic sleep, which makes this cycle possible for them. This isn't to say that others can't use it, but it is simply unlikely that it will work. There is not enough time spent in REM for most people, so the cycle is tough to adapt to.

The cycle consists of four 30-minute sleeps throughout the day, which totals only two hours of sleep! Some have adjusted the cycle to reflect a pattern of one 1.5-hour sleep with two 30-minute naps and one 20-minute nap.

People with the DEC2 gene do not suffer from sleep deprivation because their sleep compression and sleep quality are naturally so good. The whole idea of a reduced sleep schedule is to improve sleep compression and sleep quality so that one may get all the normal deep sleep and REM sleep on less total sleep, just like a DEC2 short-sleeper. It is estimated that less than one per cent of the world's population has this gene.

Although the Dymaxion cycle has the same total sleep hours as the Uberman cycle (2-3 hours), it is not as sustainable because it lacks some advantages of Uberman. There seems to be a frequency advantage to Uberman whereby small amounts of frequent REM can greatly reduce sleep pressure compared to one large chunk of REM. A larger amount of less-frequent REM (as in Dymaxion) is basically less effective at reducing sleep pressure building up over the day, which is why fatigue may build more throughout the day for a Dymaxion sleeper compared to an Uberman sleeper.

While the most noticeable effect of the mutated DEC2 gene is more REM and SWS and less LNREM [light non-REM], there is also the fact that these people can get by with less frequent REM without any effect on their sleep pressure. This is an effect of their circadian rhythm, something we do not yet know how to alter.

The Dymaxion sleep schedule was named and developed by the American architect and inventor R. Buckminster Fuller. The chances are that he indeed had this gene mutation and could get by on very, very little sleep. Fuller had an incredible passion for learning and engineering, so he would never have succumbed to a fatigued state induced by boredom.

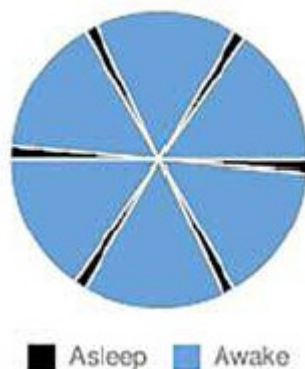
Classically, the schedule stands as four 30-minute naps, but as more people adapt to different schedules we see that even ultradian-centric schedules have some kind of shift due to daylight and night-time darkness. This may manifest as slightly longer sleeps at night and slightly shorter sleeps in the afternoons.

This information is not meant to deter people from experimenting with this schedule, but to inform them so they can make the right choice for their lifestyle. It would certainly be amazing to find another person with the same passion, drive and sleeping pattern as Buckminster Fuller!

### **Uberman Sleep**

The Uberman cycle, again named by PureDoxyk, is a sleep schedule consisting entirely of 20-minute naps totalling two hours of sleep per day. Each nap is spaced equidistantly throughout the day.

## UBERMAN



The classic method is to take six 20-minute equidistant naps per day. Alternatively, you can take eight 20-minute naps, also spaced equidistantly throughout the day, as the extra 40 minutes each day can make a big difference.

Some people report that missing naps while on this schedule can result in their feeling very drained and tired, so keeping to the schedule is important. This of course might be difficult depending on your lifestyle, so take this into consideration if you decide to give this a try.

One cool note for this cycle is that many Uberman sleepers report experiencing very vivid lucid dreams. This cycle might be worth a try for those experimenting with lucid dreaming.

Nothing is known about the longterm health effects of being an Uberman sleeper, although there have been people who managed to sustain the schedule for as long as a year with no serious health issues.

No one has *ever* adapted to Uberman without the help of others, often in the form of a human alarm system.

A six-nap schedule (2.0 hours of sleep in total) consists of a nap every 4.0 hours. It has a two-hour BRAC (basic rest and activity cycle) and a four-hour rhythm.

An eight-nap schedule (2.0 hours and 40 minutes of sleep in total) consists of a nap every 3.0 hours. It has a 1.5-hour BRAC and a three-hour rhythm.

### • Exaptation

The adaptation process for Uberman sleep begins with 24-36 hours awake (or until you enter into a "second wind", a rise in energy), at which point you begin taking a nap for every BRAC (1.5-2.0 hours). You might continue with this exaptation for 2-4 days until you are getting regular REM naps, or until you are no longer REM sleep deprived and unable to nap so frequently.

### • Adaptation

You may forgo the exaptation and simply go straight into the adaptation phase. Nap every 3.0 hours or every 4.0 hours on the dot, depending on which rhythm you feel comfortable with.

An expectation of Uberman sleep is to go through "zombie mode", where normal cognitive function is severely impaired due to sleep deprivation.

Starting with an exaptation may help alleviate these symptoms, and of course an eight-nap schedule will be less harsh to adjust to than a six-nap schedule.

After this, continue napping as your sleep cycles repartition (on day three, day seven or day 10, depending on the individual and their initiating sleep deprivation). It takes three to four weeks to adapt to the Uberman schedule.

Some people may adapt more quickly, but many have taken a whole month to start feeling adapted.

While many people claim that the adaptation period is finished after a month's practice, the body continues to "adjust" to this schedule for many months as continual entrainment improves habituation.

Note that usually people have been accustomed to monophasic sleep for many, many years, and so while a month-old Uberman should feel fairly rested and alert for about 22 hours a day, old monophasic sleep habits still exist and it may take a long while for these to subside completely.

As habituation becomes stronger, an Uberman sleeper should gain some flexibility and be able to shift naps by an increasing amount of time without suffering from a rhythm disturbance. It becomes easier to recover from mistakes or events where naps cannot be taken when they normally would, and even occasionally a longer sleep period will usually not ruin an adapted Uberman's schedule completely as it would have during adaptation.

#### • Nonequidistant Uberman Sleep

Because the body gets different types of sleep at different times of the day, nonequidistant timing may be possible and may even be beneficial to the sustainability of the schedule.

Such a schedule might be achieved by starting with eight equidistant naps and, once adapted to this, then cutting out a late-afternoon nap. After adjusting and adapting to the seven-nap schedule, then cut out a late-morning nap. All three schedules (eight, seven and six naps) should be easily transitioned between, because they have the same ultradian rhythm and the same nap time. This model would allow for "sleep-ins" (eight naps a day) and "work days" (six naps a day).

#### • Uberman Sleep Refeeds

In some scenarios, a person adapting to the Uberman schedule will have an oversleep or an impending "crash". The best way to deal with a crash is to oversleep on purpose before the crash comes.

In another scenario, a person has adapted and repartitioned their sleep but is still sleep deprived from the initial sleep-deprivation stage. This is usually because they are getting enough REM and SWS to sustain their schedule, but no excess sleep and therefore not enough to recover. If they are to refeed sleep and catch up from the initial deprivation required to create enough sleep pressure to adapt, then they will regain homeostasis.

There are two notable ways to recover from sleep deprivation on a nap-only schedule. They may not be ideal, but they get the job done. They should be implemented no more than every few days and usually started around dusk, 10 hours before the crash. (assuming the crash is expected at around 4.00 am).

The first technique, a Core Refeed, is to have a 1.5-hour core sleep in place of a nap. It is that simple. Have a core sleep between dusk and midnight, then continue to nap as per your usual schedule, napping at your next allocated nap.

The second technique, a Nap Refeed, is to start to double your napping frequency. For example, a 4-8-12-schedule Uberman may want to take extra naps at 6.00 pm and 10.00 pm.

These techniques basically increase the amount of SWS an Uberman can get (thus the sleep is around dusk) without disrupting adaptation too much.



The more often you do this, the longer it will take to adjust to the Uberman schedule. Of course, it should be said that doing a refeed is better than crashing, as you are intelligently managing your stress levels rather than succumbing to them.

#### How Will You Sleep?

When I first heard of the possibility of different sleep cycles, I was excited. So for me, I'm definitely going to give one of these a try. As of now, I will likely start experimenting with the Everyman cycle.



Either way you go, when it comes to swapping sleep cycles it seems that the only one that requires very little adjustment of your body is the biphasic. Each of the others will likely require a two-week period of integration before you fully recognise the nature of the cycle.

If you decide to give them a try, don't be hasty in giving up! Feeling like a zombie after the first few days is a possibility, but with the proper adjustment things could work out.

Keep your current lifestyle in mind before choosing a different cycle. Is it going to be possible for you to have naps throughout the day? Don't be afraid to push your boundaries, but remember practicality.

It has been said that eating healthy, clean foods helps with the adjustment process.

It's also recommended that you get a good alarm and make it your friend. When you begin changing your cycle you will need it to stay disciplined, so do your best to keep on track with your sleep and wake-up times.

When you do sleep, try to be in a dark setting. When you awaken, try to expose yourself to sunlight for a few minutes. Remember: don't give up right away!

If you've had experiences with alternative sleep cycles, share them. I'm going to be blogging in great detail about my experience with the Everyman cycle.

### **Our Ancestors Had Two Sleeps Per Night!**

Back before the 1800s, your ancestors slept in a way that modern sleepers would find bizarre. They slept twice per night! The existence of our sleeping twice was uncovered by Dr Roger Ekirch, Professor of History at Virginia Tech, USA. His research found that we didn't always sleep in one eight-hour chunk. We used to sleep in two shorter periods, over a longer range of night. This range was about 12 hours long and began with a sleep of three to four hours, wakefulness of two to three hours, then sleep again until morning.

References are scattered throughout literature, court documents, personal papers and the ephemera of the past. What is surprising is not that people slept in two sessions but that the concept was so incredibly common. Two-piece sleeping was the standard, accepted way to sleep.

"It's not just the number of references: it is the way they refer to it, as if it was common knowledge," Ekirch said.

An English doctor, for example, wrote that the ideal time for study and contemplation was between the "first sleep" and the "second sleep". In *The Canterbury Tales*, Chaucer told of a character who went to bed following her "first sleep". And, explaining the reason why the working class conceived more children, a doctor from the 1500s reported that they typically had sex after their first sleep. Ekirch's book *At Day's Close: Night in Times Past* is replete with such examples.

But just what did people do with these extra twilight hours? Pretty much what you might expect. Most stayed in their beds and bedrooms, sometimes reading, and often they would use the time to pray. Religious manuals included special prayers to be said in the midsleep hours. Others might smoke, talk with co-sleepers or have sex. Some were more active and would leave to visit neighbours.

As we know, this practice eventually died out. Ekirch attributes the change to the advent of street lighting and eventually indoor electric lighting as well as the popularity of coffee houses. Dr Craig Koslofsky, Professor of History at the University of Illinois, USA, offers a further theory in his book *Evening's Empire*. With the rise of more street lighting, night stopped being the domain of criminals and sub-classes and became a time for work or socialising. Two sleeps were eventually considered a wasteful way to spend these hours.

No matter why the change happened, shortly after the turn of the 20th century the concept of two sleeps had vanished from common knowledge, until about 1990.

Two sleeps per night may have been the method of antiquity, but tendencies towards it still linger in modern man. There could be an innate biological preference for two sleeps, given the right circumstances.

In the early 1990s, psychiatrist Thomas Wehr, MD, of the US National Institute of Mental Health, conducted a study on photoperiodicity (exposure to light) and its effect on sleep patterns. In his study, 15 men spent four weeks with their daylight artificially restricted. Rather than staying up and active for the usual 16 hours per day, they would stay up for only 10 hours. The other 14 hours they would be in a closed, dark room, where they would rest or sleep as much as possible. This mimics the days in mid-winter, with short daylight hours and long nights.

At first, the participants would sleep for huge stretches of time, likely making up for the sleep debt that's common among modern people. Once they had caught up on their sleep, though, a strange thing happened: they began to have two sleeps. Over a 12-hour period, the participants would typically sleep for about four or five hours initially, then wake for several hours, then sleep again until morning. They slept not more than eight hours in total. The

middle hours of the night, between two sleeps, were characterised by unusual calmness, likened to meditation. This was not the middle-of-the-night toss and turn that many of us experience. The individuals did not stress about falling back to sleep, but used the time to relax.

Dr Russell Foster, Professor of Circadian Neuroscience at the University of Oxford, UK, points out that, even with standard sleep patterns, this night waking isn't always cause for concern. "Many people wake up at night and panic. I tell them that what they are experiencing is a throwback to the bimodal sleep pattern."<sup>1</sup>

Outside of a scientific setting, this kind of sleep pattern is still attainable, but it does require changing our modern, electric lifestyle. J. D. Moyer and his family intentionally went an entire month with no electric lighting. In the winter months, this meant a lot of darkness and a lot of sleep. Moyer wrote: "...I would go to bed really early, like 8.30, and then get up around 2.30 am. This was alarming at first, but then I remembered that this sleep pattern was quite common in pre-electric-light days. When this happened, I would end up reading or writing by candlelight for an hour or two, then going back to bed."

So, the next time you wake up at 2.00 am and can't sleep, just remember your great, great, great, great, great grandparents. They did the same thing every night (Source: *SlumberWise.com*, 16 May 2013, <http://tinyurl.com/lezvbaqf>.)

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Joe Martino is a writer, editor and documentary filmmaker based in Ontario, Canada. He is a co-founder of Collective Evolution, a grassroots organisation established in 2009 to promote sustainable living, healthy lifestyles, and actions for conscious change to create a better world. For more information, visit <http://www.collective-evolution.com>. To view Joe Martino's complete article, together with hyperlinks, go to <http://tinyurl.com/l7s85zh>.

#### **References**

- <http://tinyurl.com/kkp7t9c>
- <http://tinyurl.com/32u4gc>
- <http://www.polyphasicociety.com/>

# Ebola...or African Strains of Tuberculosis?

The Ebola virus currently ravaging several West African nations has striking similarities with two strains of tuberculosis which are just as deadly and cause Ebola-like symptoms. Yet health authorities are in denial about this link and don't consider it in the design of diagnostic tests.

by Lawrence Broxmeyer, MD  
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The US Centers for Disease Control and Prevention (CDC) recently declared: "Diagnosing Ebola in a person who has been infected for only a few days is difficult, because the early symptoms, such as fever, are nonspecific to Ebola infection and are seen often in patients with more commonly occurring diseases, such as malaria and typhoid fever."<sup>1</sup>

Only a sin of omission, then, would explain why anyone or any group would *not* want to mention specifically the most commonly occurring cause of infectious death in Africa—tuberculosis (TB)—whose sky-high rates in West Africa make Ebola look like a dropperful of water squeezed into the Mississippi.

If by October 2014 Ebola had laid claim to what the World Health Organization (WHO) claimed was well over 3,338 deaths<sup>2</sup> since its March outbreak, certainly this ought to be weighed in the light of the approximately 600,000 Africans slain by TB during the same time window.<sup>3</sup> Furthermore, by 20 October 2014, worldwide Ebola mortality stood at 4,868, with just over 81 per cent of these deaths recorded in Liberia and Sierra Leone.<sup>4</sup> While Liberian health officials warned as early as 2009 that TB was skyrocketing out of control<sup>5</sup>, a mixed scientific coalition from Sierra Leone and Germany cautioned that Sierra Leone's own tuberculosis level was not only the highest in West Africa but was filled with resistant strains of TB and tuberculous *Mycobacterium africanum* which had "reached an alarming level...raising the question of possible consequences" for a future new TB epidemic.<sup>6</sup>

Indeed, almost half of all TB cases in the West African Ebola zone are caused by *Mycobacterium africanum*—an unusual yet just as deadly member of the tubercular family, exclusive to West Africa, which is rapidly becoming a microbe of great public, and now possibly global, concern. That tubercular *M. africanum* can and has already caused TB in the USA is a matter of record.<sup>7</sup> Furthermore, there is a body of evidence that *M. africanum* requires more sustained contact, even among household members<sup>8</sup>—certainly mirrored in the current outbreak. Meanwhile, health officials continue to insist that "casual contact" cannot transmit Ebola—precisely the same claim that they've long made about TB.

Surely the CDC is aware that there is not a sign or symptom of Ebola, including its haemorrhagic tendencies, that cannot be found in acute disseminated miliary (blood-borne) tuberculosis, once called "galloping consumption"—the single most feared form of the disease ever. Most likely it is also aware that such tuberculosis has its own virus-like forms, some of which can simulate the Ebola virus. Such viral TB is generally acknowledged to be TBs preferred form—as a survival strategy to storm any inclement conditions in which the microbe might find itself.<sup>9</sup> Then why did the CDC not mention tuberculosis, by name, in its short list of possibilities that could cause Ebola-like symptoms? If such oversight stopped there it would be unremarkable, but it seems to have been carried over in the very design of the most recent diagnostic tests issued to detect Ebola.

## Discovery of the Ebola Virus

In September 1976, a team—including a 27-year-old medical graduate training as a clinical microbiologist at the Institute of Tropical Medicine in Antwerp, Belgium—received a blue thermos from Zaire. It contained two 5.0mL clotted blood specimens from an African-based Flemish nun. The Belgian physician who sent it, Jacques Courteille, practising in Kinshasa, included a note saying that he was at a complete loss as to the nun's mysterious, yet deadly, illness. He also asked if the samples could be tested for yellow fever. This thermos had travelled from Zaire's capital city of Kinshasa on a Sabena commercial flight to Belgium—inside its deliverer's hand luggage. When the samples were received, Peter Piot, the 27-year-old medical graduate, and his colleagues placed the blood samples under an electron microscope. To be sure, Piot's interest was virology, and a virologist he would soon become—best known for his work on theorising the "viruses" behind Ebola and AIDS. To this effect, he contributed heavily to the luminous literature that HTLV-1 had a role in AIDS, which it did not. Piot had this to say about the Ebola virus:

*We saw a gigantic worm-like structure—gigantic by viral standards. It's a very unusual shape for a virus; only one other virus looked like that and that was the Marburg virus.<sup>10</sup>*

To some, it might be considered "worm-like"; to others, serpentine (see figures 1-4 below).

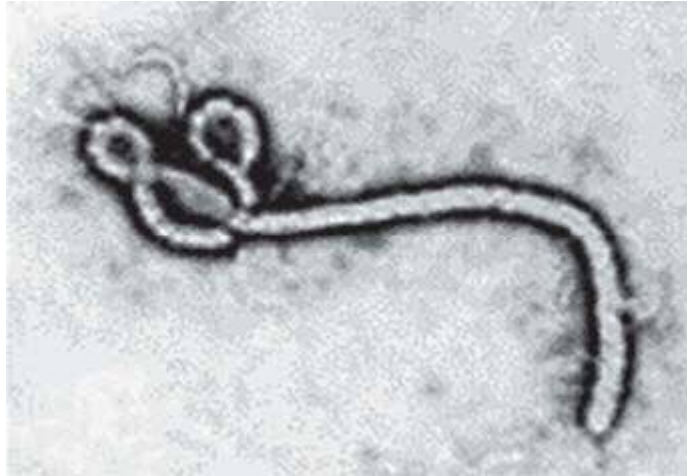


Figure 1: The serpentine form of the Ebola Virus (magnification ~60,000x) (Micrograph from Dr F.A. Murphy, University of Texas Medical Branch, Galveston, Texas, courtesy CDC)



Figure 2: L-forms (or cell-wall-deficient forms) of tuberculosis under the electron microscope (Source: Michailova, L. et al., "Morphological variability and cell-wall deficiency in *Mycobacterium tuberculosis* 'heteroresistant' strains", *Int. J. Tuberc. Lung Dis.* 2005 Aug; 9(8) :907-14,911)

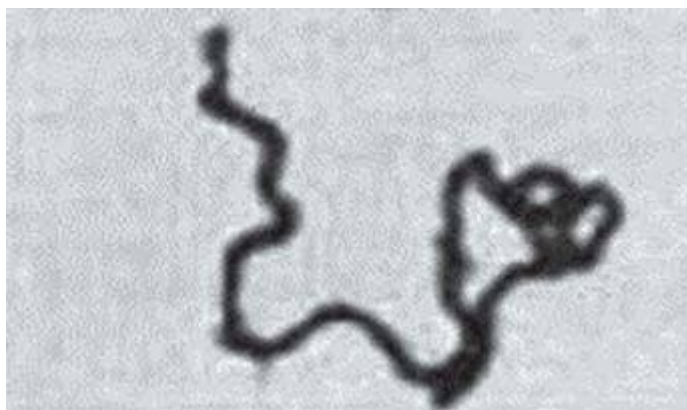


Figure 3: Serpentine form of "cords" of lethal tubercle bacilli (Source: Darzins, E., *The Bacteriology of Tuberculosis*, University of Minnesota Press, Minneapolis, 1958 p. 296)

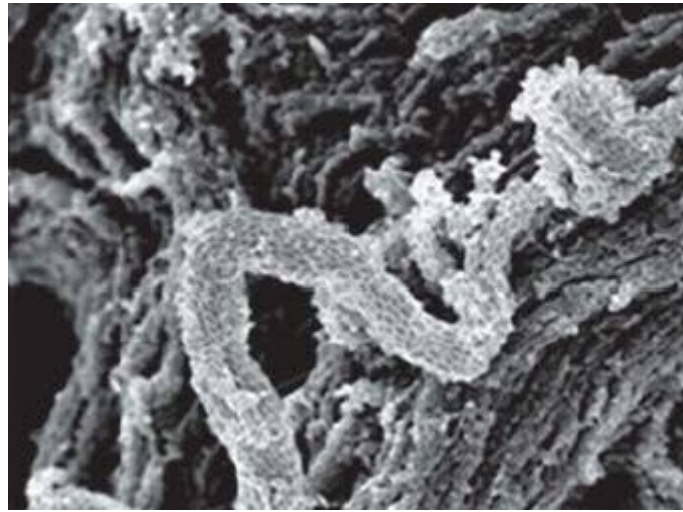


Figure 4: Worm-like cords from an atypical TB under the electron microscope (Source: Julian, E. et al., "Microscopic Cords, a Virulence-Related Characteristic of Mycobacterium tuberculosis...", *J. Bacteriology* 2010 Apr; 192[7]: 1751-60, 1756)

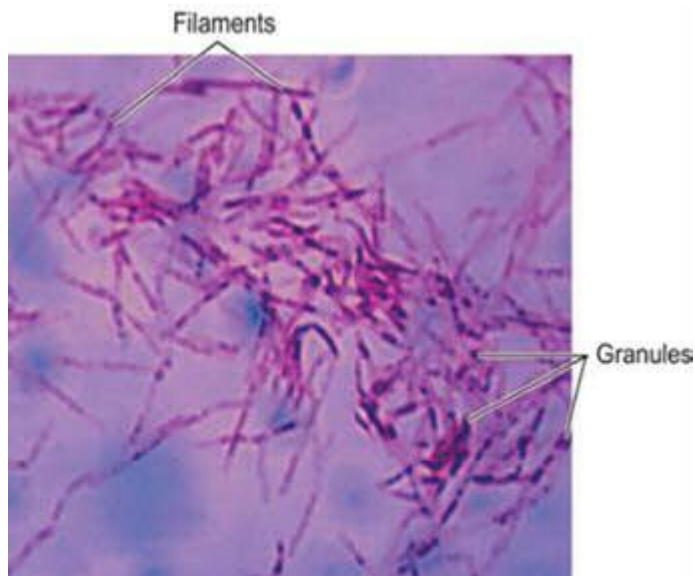


Figure 5: Filamentous cell-wall-deficient forms of *Mycobacteria tuberculosis*

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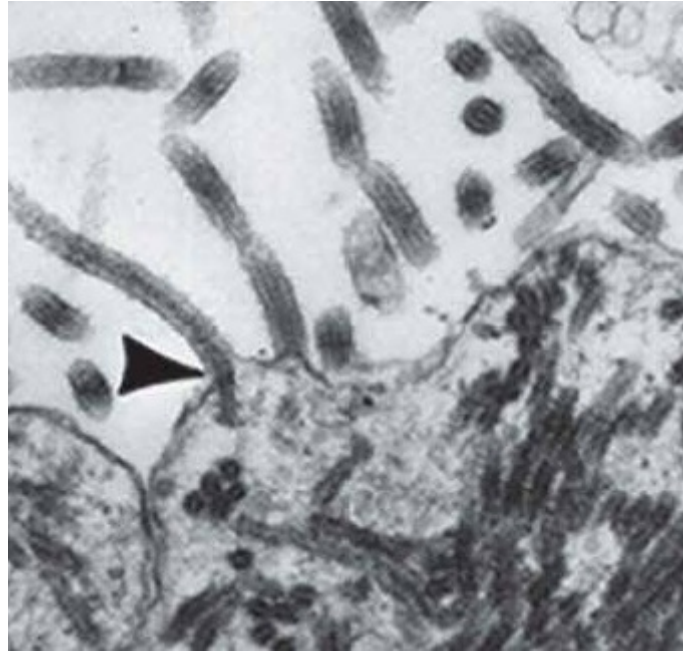


Figure 6: Filamentous forms of the Ebola virus (magnification ~40,000x) (Source: Dr F.A. Murphy, University of Texas Medical Branch, Galveston, Texas)

But the new "virus" needed a name. Piot related the interesting tale of how Ebola came to be named Ebola:

*On that day our team sat together late into the night—we had also had a couple of drinks—discussing the question. We definitely didn't want to name the new pathogen 'Yambuku virus', because that would have stigmatised the place forever. There was a map hanging on the wall and our American team leader suggested looking for the nearest river and giving the virus its name. It was the Ebola river. So by around three or four in the morning we had found a name. But the map was small and inexact. We only learned later that the nearest river was actually a different one. But Ebola is a nice name, isn't it?<sup>11</sup>*

Depends how you look at it.

Piot's specimens proved negative for yellow fever. He mentioned that the tests for Lassa fever and typhoid were also negative. What, then, could it be? Piot said that to "isolate any virus material", small amounts of the blood samples were injected into Vero cells and into mice. Several of these mice subsequently and abruptly died—"a sign that a pathogenic virus was probably present in the blood samples...used to inoculate them".<sup>12</sup> The fact that the mice died did not mean that it was at the hands of a "pathogenic virus".

Piot's boss at the Institute of Tropical Medicine, Professor Stefaan Pattyn—who Piot admitted "could be a bit of a bully"—supposedly specialised in the study of mycobacteria (tuberculosis and leprosy) yet he seemed unaware of the haemorrhagic consequences of acute TB. Nor had he taken the time to use special stains and cultures to detect its virus-like cell-wall-deficient forms. Instead, Pattyn followed his current passion, shared by Piot. Pattyn had previously worked in Zaire for six or seven years, and exotic viral illnesses were now "right up his alley".<sup>13</sup> So Pattyn's team likewise never really considered a strain of acute miliary TB or its viral cell-wall-deficient forms in his rule-outs for an acute haemorrhagic or epidemic fever—among them *Mycobacterium tuberculosis* and *Mycobacterium africanum*.

### **The Galloping Spread of Tuberculosis**

The Ebola of its day on steroids, "galloping" acute consumptive tuberculosis could kill in days—the mere memory of which, just a few generations ago, brought terror to the faces of those who had witnessed and were describing it. Dubos and Dubos made it clear that "galloping consumption" was not an isolated but a frequent diagnosis in the 19th and early 20th centuries.<sup>14</sup>

Despite persistent myths to the contrary, in the early phase of any new TB epidemic from a new and virulent strain, tuberculosis manifests itself as an acute disease and only much later as the chronic pulmonary tuberculosis that we

know in today's western world. An example of this can be found in the high mortality during the 1918 "influenza" pandemic, when African Americans were brought to fight in France during World War I, large numbers dying from a fast-tracked tubercular "galloping consumption".

Many often underestimate the speed, contagiousness and ferocity of a TB epidemic. Khomenko and Muratov's 1993 study<sup>15</sup> should have cemented the notion that the explosive contagiousness of just such Ebola and influenzalike viral forms of tuberculosis are exactly the stuff that previous epidemics and pandemics could have been made of. But it didn't.

In the USA, the CDC and the National Institutes of Health (NIH) seemed to feel differently, ignoring the historic possibility. There was much the same viral passion at that time over "influenza" when, in 1990, a new multidrug-resistant (MDR) tuberculosis outbreak took place in a large Miami municipal hospital. Soon thereafter, similar outbreaks in three New York City hospitals left many sufferers dying within weeks. By 1992, drug-resistant tuberculosis had spread to deadly mini-epidemics in 17 US states, and was reported not by the American but the international media as out of control.

Viral forms of swine, avian and human TB can be transmitted from one species to another. So can exotic strains of tuberculosis and *Mycobacterium africanum*, imported into the United States through countries such as Liberia. By 1993, the World Health Organization had proclaimed tuberculosis a global health emergency.<sup>16</sup> That emergency has never been lifted.

Anderson pointed out that such acute, untreated disseminated, "galloping", blood-dispersed TB could kill in hours or days<sup>17</sup>, its mortality, according to Saleem and Azher, even today approaching 100 per cent.<sup>18</sup> Ebola itself can take up to a month to kill its victims, said Ben Neuman<sup>19</sup>, an expert in viruses at the University of Reading in the UK—although there are many cases that also kill in hours or days.

Not only were tubercular haemorrhaging and fever both mentioned by Fox<sup>20</sup>, but also haemorrhaging of or into the serous cavities, gums, nose, joints, skin and bowel. Appleman<sup>21</sup>, discussing massive spontaneous haemorrhages into the vitreous humour, mentioned that Axenfeld considered acute tuberculosis an important possibility in the rule-out for bleeding into the eye.

Coughing up blood has always been a well-known scenario for TB.

Haemorrhages of significance from the ear, secondary to tuberculous otitis media, are also on record.<sup>22</sup> There is the well-documented possibility of acute disseminated tuberculosis attacking the bone marrow and, through fibrosis, causing a partial shutdown of platelets—changing the very morphology of those platelets as well as interfering with their function. These combined effects create a clear and present haemorrhagic danger.

Still to this day, bone marrow biopsy is at times a valuable diagnostic test for tubercular involvement. In addition, extrapulmonary (outside of the lungs) tuberculosis is the most frequent cause of a prolonged fever of unknown origin (FUO) and has been for a long, long time.<sup>23</sup>

A fact initially carefully minimised by certain Ebola "authorities" and recently clarified by Feldmann is that in the current Ebola outbreak "less than half" of the people infected showed visible haemorrhaging.<sup>24</sup> This was just enough to prompt some virologists to rethink Ebola's designation from "Ebola haemorrhagic fever" to the "Ebola virus disease". So much for "haemorrhagic fever". Yet even then, in a 1978 WHO *Bulletin* regarding the 1976 Ebola outbreak in Zaire, it was admitted that haemorrhaging, although from "multiple sites", was "principally [from] the gastrointestinal tract".<sup>25</sup> However, patients with TB spread to the gastrointestinal tract can also have fever and abdominal pain, and can have the same gastrointestinal or rectal bleeding that patients with Ebola can have.

### **Fatality Rates on the Rise**

Nor do the parallels stop here. In September, as the CDC justifiably warned against nonessential travel to Sierra Leone, available data from the two Ebola facilities in that country came in with case fatality rates (CFRs) for Ebola that ranged between 50 per cent and 72 per cent. Although considerably higher than the 37.7 per cent CFR that Sierra Leone's Ministry of Health was reporting<sup>26</sup>, this averages out to an agency-reported fatality rate of 61 per cent—not much different from the approximately 67 per cent mortality given for the untreated active tuberculosis that currently rages in West Africa and many other places around the world.<sup>27</sup>

Meanwhile, WHO recently summed up that although the rate of Ebola infections was picking up speed at an alarming rate in West Africa, the fatality rate was 53 per cent overall, ranging from 64 per cent in Guinea to just 39 per cent in Sierra Leone.<sup>28</sup> If this 53 per cent figure was designed to make the situation more bearable, it hardly achieved its goals.

### **Problems with Diagnostic Tests**

Moreover, the designs of present diagnostic tests for Ebola don't meet the sniff test in certain respects. An article in the *Los Angeles Times* of 7 August 2014 mentioned that an unapproved Ebola test-tube diagnostic assay,

developed by the US military, had just been approved for use in the US under a "special emergency-use provision".<sup>29</sup> Critics claim that the two PCR systems to be used for Ebola testing in such "emergency situations" are unapproved. But there's more.

While an instruction booklet issued by the US Food and Drug Administration<sup>30</sup> showed impressive results for detecting and thereby being positive for known "Ebola" samples, it sadly failed in its inadequate selection of those pathogens that might be cross-reacting and therefore making for false-positive Ebola tests. The instruction booklet, Version 2.0, which accompanied the new Ebola assay, mentions:

*92.22 Bacterial Cross-Reactivity: Bacterial cross-reactivity of the EZ1 assay was evaluated by testing purified nucleic acid of bacteria that potentially could be infecting the majority of the population. No cross-reactivity was observed in the human **DNA or any of the bacteria tested (Table 51)**.*<sup>31</sup> [Bold print is in original.]

Yes, the only problem being that a glance at table 51 shows practically every bacteria in existence except for the one subset of pathogens "that potentially could be infecting the majority of the [West African] population", and those pathogens are, again, *Mycobacterium tuberculosis* and its related *Mycobacterium africanum*.

Such diversion is no trivial point. As time went by, it became obvious that attempts were in the pipeline to link the pathogenesis of Ebola and AIDS, right down to their sexual transmission (a poorly kept secret is that TB can also be sexually transmitted<sup>32</sup>). So mistakes made during the AIDS probes would have to be avoided with Ebola.

For example, in the past, as veterinarian Myron "Max" Essex—the first scientist to propose human immunodeficiency virus (HIV) testing—knew, tuberculosis and its allied mycobacteria gave a false positive for HIV in his tests in almost 70 per cent of cases. Such crossreactivity between HIV and tuberculosis was so significant that it forced Essex and his protege, Congo physician Oscar Kashala, to warn that the HIV screening test, the enzyme-linked immunosorbent assay (ELISA) and the western blot results "should be interpreted with caution when screening individuals with *M. tuberculosis* or other mycobacterial species".<sup>33</sup> This, of course, automatically meant throwing away HIV serum diagnostics for, according to WHO, at least a third of the people in the world who presently harbour tubercular infection.

So why, then, was *Mycobacterium tuberculosis* noticeably excluded from the CDC's Table 51 and not included in those pathogens tested for cross-reacting and therefore possibly giving false-positive tests for Ebola? Did the original panel (Version 1.0) chosen by government scientists actually include *Mycobacterium tuberculosis* and related microbes in its design—only to find that indeed these mycobacteria caused positive tests for Ebola as in the HIV affair? Did they feel that such results might muddy the waters or be too difficult to explain, and so subsequently remove them? This is not known.

A group of researchers from the University of Oxford, UK, and the University of Leuven, Belgium, have just determined that HIV is "almost certain" to have begun its spread from Kinshasa, now the capital of the Democratic Republic of the Congo.<sup>34</sup> Whether this research bears out or doesn't,

Kinshasa itself has long been a hotbed for tuberculosis—and now Ebola. On top of that, a doctor in rural Liberia, swarmed with Ebola patients, says he's had extremely good results with HIV treatment—albeit such treatment was borne out of admitted desperation.<sup>35</sup>

The US National Institute of Allergy and Infectious Diseases, having got wind of this, is carefully looking into the use of some of these HIV-antiretrovirals to control Ebola. This just might work, but will it answer the reason as to *why* it works? The NIH, for example, has long known, through mechanisms not yet clearly worked out, that HIV treatment suppresses both the tuberculosis and the fowl tuberculosis that are currently the leading causes of infectious death in AIDS. To this effect, the NIH decades ago recruited university laboratories to look into the reason why.<sup>36</sup>

Therefore, are the HIV drugs working against an "Ebola virus" which is estimated to have killed over 3,300 Africans from March to the beginning of October 2014, or TB which killed 600,000 Africans in that same window? There still remains much work ahead to determine this. Antiretrovirals have major side effects.



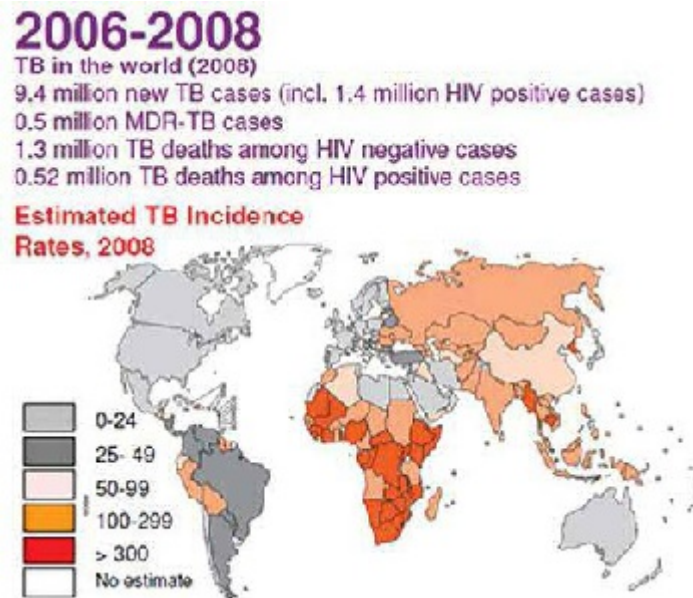


Figure 7: Map showing the severity of the tuberculosis problem, compiled in 2006-2008-the last period before WHO's TB statistics plummeted as a result of including many TB cases in the questionable wastebasket of "AIDS-defining illness". Note that the darker highlighted regions are mostly in Africa. (Source: WHO)

### **Ebola and Marburg Viruses**

Ebola virus disease (previously known as Ebola haemorrhagic fever) is often compared to the Marburg virus. So we have this, published on 7 April 2005, regarding that outbreak:

"Angola is in the grip of the world's worst ever outbreak of the Marburg virus. According to the World Health Organization (WHO), as of 5 April, 156 of the 181 people reported infected have died. The Ebola-like virus causes a fever that, in fatal cases, is usually accompanied by severe internal bleeding and shock. There is no vaccine or medical treatment and up to 80 per cent of infected people die within three to seven days. Three-quarters of those affected are children under five. Diagnosing an infection with the Marburg virus can be difficult as its initial symptoms are similar to those of malaria or tuberculosis. They include diarrhoea, stomach pains, nausea, vomiting and severe chest pains."<sup>37</sup>

The heavy mortality and morbidity under the age of five with Marburg brings to mind specifically a tubercular involvement, in which most children affected are also in the same age group. What has been called "The Golden Age of Resistance" against TB mortality has always been, for unknown reasons, ages six through fifteen.

In this same vein, during the Zaire Ebola outbreak of 1976, women 15-29 years of age had the highest incidence of that disease.<sup>38</sup>

Both the Ebola virus and the Marburg virus are called filoviruses because they form filamentous infectious viral particles. Filoviruses, however, are not alone. *Mycobacterium tuberculosis*, which commonly lodges in and multiplies in our body's white-cell defenders (macrophages), also becomes filamentous once inside a macrophage (see figures 5 and 6).<sup>39</sup>

According to the WHO, close contact with the bodily fluids of people infected with Ebola, for example in hospitals or at burials, has in the past increased the risk of infection. Health workers have been advised to wear a mask and gloves.<sup>40</sup> Yet physicians all masked and gloved up have contracted Ebola and Marburg.

WHO's statement is misleading. As far back as 1995, the ability of Ebola to aerosolise or spread through airborne transmission was reported, studied and confirmed.<sup>41, 42</sup> Ebola is a communicable airborne infection, just like tuberculosis.

### **Source of the New Ebola Strain**

"Ebola virus has been found in African monkeys, chimps and other nonhuman primates [such as fruit bats]. A milder strain of Ebola has been discovered in monkeys and pigs in the Philippines."<sup>43</sup>

Early studies suggested that the new strain of Ebola had emerged in West Africa, but according to epidemiologist Fabian Leendertz, a disease ecologist at the Robert Koch Institute in Berlin, Germany, who led a large team of scientists to Guinea, it is likely that the virus in Guinea is closely related to the one known as Zaire Ebola virus, identified more than 10 years ago in the Democratic Republic of the Congo.<sup>44</sup>

It is believed that the new strain probably arrived in West Africa via infected straw-coloured fruit bats from another part of Africa. These bats migrate across long distances and are commonly found in giant colonies near cities and in forests. Fruit bats, however, are widely eaten in rural West Africa—supposedly as a delicacy. But the same fruit bats can carry mycobacteria from the mycobacterial tuberculosis complex.<sup>45, 46 47</sup> Previous Ebola outbreaks saw catastrophic death rates in gorilla and chimpanzee populations<sup>48</sup>, which led some scientists to think that they were the ones responsible for the disease spreading. Old World monkeys are very susceptible to human and cattle tuberculosis. Unlike humans, monkeys have no natural resistance to the disease. When they do catch it from a human, it usually spreads very quickly and fatally (as in acute miliary tuberculosis) and to areas other than their lungs. During their illness, they can spread the disease to anyone who comes into contact with them or their waste.<sup>49</sup>

The current Ebola virus outbreak began in West Africa, one of the largest hotbeds of tuberculosis in the world (see figure 7). The "Ebola Response Roadmap", recently put out by WHO, lumps Ebola cases and deaths in West Africa under three perplexing categories of "probable, confirmed and suspected", which to many should have been limited to those "confirmed".<sup>50</sup>

So what is the take-home message here? At best, that "Ebola-like" does not always mean Ebola; at worst, that "Ebola" does not mean Ebola.

#### **About the Author:**

Pennsylvania internist/researcher Lawrence Broxmeyer, MD, was on the staff at NY affiliates of Downstate, Cornell and NYU for 14 years. He was the originator and lead author of a novel way to kill AIDS mycobacteria (*J. Infectious Diseases* 2002; 186[8]:1155-60). His ideas on phagotherapy are still in use today. He contributed a chapter to the textbook *Patho-Biotechnology* (Landes Bioscience, 2008). His peer-reviewed articles are on PubMed. He is the author of several books including *AIDS: What the Discoverers of HIV Have Never Admitted* (latest edition July 2014; see review this issue).

His two-part article "Influenza and the TB Connection" was published in NEXUS, vol. 19, nos 1 and 2. His two-part article "The Untold Truth About Cancer" was published in NEXUS, vol. 17, nos 1 and 2.

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#### **Endnotes**

1. CDC, "Ebola: Diagnosis", 19 September 2014, <http://www.cdc.gov/vhf/ebola/diagnosis/>
2. WHO, "Ebola Response Roadmap Situation Report", 1 October 2014, <http://tinyurl.com/mf932y6>
3. Ball, J., "Concerned about Ebola? You're worrying about the wrong disease", *The Guardian*, 6 August 2014, <http://tinyurl.com/mvtz7jc>
4. WHO, "Ebola Response Roadmap Situation Report", 22 October 2014, <http://tinyurl.com/pwn3yhl>
5. IRIN, "Liberia: Tuberculosis on the rise", 4 February 2009, <http://tinyurl.com/l37dof7>
6. Homolka, S. et al., "High genetic diversity among *Mycobacterium tuberculosis* complex strains from Sierra Leone", *BMC Microbiology* 2008 Jun 25; 8:103, <http://tinyurl.com/mjp96y8>
7. Desmond, E. et al., "*Mycobacterium africanum* cases, California", *Emerging Infectious Diseases* 2004 May; 10(5): 921-923
8. Volansky, R.M., "Tuberculosis may lead to TB disease more frequently than *M. africanum*", *Infectious Disease News* 2008 Oct; 21(10):21, <http://tinyurl.com/qczoeyt>
9. Mattman, L.H., *Cell Wall Deficient Forms: Stealth Pathogens*, CRC Press, Boca Raton, 2001, 3rd edition
10. Brown, R., "The virus detective who discovered Ebola in 1976", BBC News, 17 July 2014, <http://tinyurl.com/kjsdemm>
11. Von Bredow, R. and Hackenbroch, V., "In 1976 I discovered Ebola...", *Der Spiegel* via *The Observer*, 5 October 2014, <http://tinyurl.com/lsp9rr>
12. Piot, P., "A Virologist's tale of Africa's first encounter with Ebola", *Science*, 11 August 2014, <http://tinyurl.com/>

- [lgwww6g](#); adapted from Peter Piot, *No Time to Lose: A Life in Pursuit of Deadly Viruses*, W.W. Norton & Co., 2012
13. *ibid.*
  14. Dubos, R. and Dubos, J., *The White Plague: Tuberculosis, Man, and Society*, Rutgers University Press, 1987, p. 205
  15. Khomenko, A.G. and Muratov, V.V., "Epidemiological risks of tuberculous infection foci in patients discharging L forms of *Mycobacterium tuberculosis*", *Problemy Tuberkuleza i Bolezni Legkikh* 1993; (2):2-5
  16. "WHO Calls Tuberculosis a Global Emergency", *Los Angeles Times*, 24 April 1993, <http://tinyurl.com/mrhkr9w>
  17. Anderson, M., *Clinical Lectures on the Curability of Attacks of Tubercular Peritonitis and Acute Phthisis (Galloping Consumption)*, James MacLehose, Glasgow, 1877, p. 16
  18. Saleem, A. and Azher, M., "The Next Pandemic -Tuberculosis: The Oldest Disease of Mankind Rising One More Time", *Br. J. Med. Pract.* 2013 Jun; 6(2):a615
  19. Kelland, K., "Ebola mortality rate expected to rise as outbreak runs its deadly course", Reuters, 5 August 2014, <http://tinyurl.com/k76wjzk>
  20. Fox, W., *A Treatise on Diseases of the Lungs and Pleura* (S. Coupland, ed.), J. & A. Churchill, London, 1891
  21. Appleman, L.F., "Massive spontaneous hemorrhages into the vitreous", *Am. J. Ophthalmology* 1918 Jan; 1 (1): 24-28
  22. Burnett, C.H., *A Text-book on Diseases of the Ear, Nose and Throat*, J.B. Lippincott Co., 1901
  23. Kasper, D.L., Braunwald, E. et al. (eds), *Harrison's Principles of Internal Medicine*, McGraw-Hill Professional Publishing, 2004, 16th edition
  24. Feldmann, H., MD, "Ebola -A Growing Threat?", *New Engl. J. Med.* 2014 Oct 9; 371(15): 1375-1378, 1375
  25. Report of an International Commission, "Ebola haemorrhagic fever in Zaire, 1976", *Bulletin of the World Health Organization* 1978; 56(2):271-293, 271
  26. Conton, P., "Sierra Leone News: Ebola - what is the true Case Fatality Rate (CFR)?", 2 September 2014, <http://tinyurl.com/l7rdtst>
  27. Saleem and Azher, *op. cit.*
  28. WHO, "Ebola Response Roadmap Situation Report 2", 5 September 2014, <http://tinyurl.com/o24rgm>
  29. Morin, M., "FDA authorizes Ebola test; vaccine will probably take until 2015", *Los Angeles Times*, 7 August 2014, <http://tinyurl.com/mrbxftg>
  30. JPM-MCS, "Ebola Zaire (EZ1) rTR-PCR (TaqMan®) Assay on ABI® 7500 Fast Dx, LightCycler®, and JBAIDS": Instruction Booklet", Version 2.0, 14 August 2014, <http://tinyurl.com/nyb67rv>
  31. *ibid.*, p. 53; Table 51, pp. 69-70
  32. Broxmeyer, L., *AIDS: What the Discoverers of HIV Have Never Admitted*, Create Space, July 2014 (latest ed.), pp. 49-67, <http://tinyurl.com/mc8yct6>
  33. Kashala, O. et al., "Infection with human immunodeficiency virus type 1 (HIV-1) and human T cell lymphotropic viruses among leprosy patients and contacts: correlation between HIV-1 crossreactivity and antibodies to lipoarabinomannan", *J. Infect. Dis.* 1994 Feb; 169:296-304
  34. Schlanger, Z., "Researchers Pinpoint Origin of HIV Pandemic" *Newsweek*, 2 October 2014, <http://tinyurl.com/llhy3o3>
  35. Izadi, E., "A Liberian doctor is using HIV drugs to treat Ebola victims. The NIH is intrigued", *The Washington Post*, 2 October 2014, <http://tinyurl.com/mwb4xg5>
  36. Broxmeyer, *op. cit.*, pp. 6-17
  37. Shetty, P., "Worst ever outbreak of Marburg virus hits Angola", SciDevNet, 7 April 2005, <http://tinyurl.com/m76qtgg>

38. Dubos and Dubos, op. cit.
39. Chauhan, A. et al., "*Mycobacterium tuberculosis* Cells Growing in Macrophages Are Filamentous and Deficient in FtsZ Rings", *J. Bacteriol.* 2006 Mar; 188(5):1856-65
40. WHO: "Ebola virus disease", Fact sheet no. 103, updated September 2014, <http://tinyurl.com/ctos5wf>
41. Johnson, E., Jaax, N., White, J., Jahrling, P., "Lethal experimental infections of rhesus monkeys by aerosolized Ebola virus", *Int. J. Exp. Pathol.* 1995 Aug; 76(4):227-236
42. Jaax, N. et al., "Transmission of Ebola virus (Zaire strain) to uninfected control monkeys in a biocontainment laboratory", *Lancet* 1995 Dec 23-30; 346(8991-8992): 1669-71
43. Mayo Clinic, "Diseases and Conditions. Ebola virus and Marburg virus", 6 August 2014, <http://tinyurl.com/lygcvy8>
44. Vidal, J., "Ebola: research team says migrating fruit bats responsible for outbreak", *The Observer*, 24 August 2014, <http://tinyurl.com/lzdgqry>
45. Scott, H.H., "Report on the deaths occurring in the Society's gardens during 1925", *Proc. Zool. Soc. London* 1926; 96:231-244
46. Griffith, A.S., "Tuberculosis in Captive Wild Animals", *J. Hyg. (Lond.)* 1928 Nov; 28(2): 198-218
47. Hamerton, A.E., "Report on the deaths occurring in the Society's gardens during 1930", *Proc. Zool. Soc. London* 1931; 101:527-555
48. Max-Planck-Gesellschaft, "Ebola-Outbreak Kills 5000 Gorillas", 6 December 2006, <http://tinyurl.com/ktpdo29>
49. Une, Y. and Mori, T., "Tuberculosis as a zoonosis from a veterinary perspective", *Comp. Immunol. Microb.* 2007 Sep; 30(5-6):415-425, <http://tinyurl.com/mxoag5d>
50. WHO, "Ebola Response Roadmap Update", 10 October 2014, <http://tinyurl.com/k8ezzhr>

# The Science and Promise of Fullerene Water

Water containing fullerenes, or carbon buckyballs, has been shown to have powerful antioxidant and detoxifying properties. It can also protect against radiation exposure and neutralise waterborne pathogens, heavy metals, nitrates and pesticides.

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## A Revolutionary Approach to Exposure to Lethal Doses of Radiation

The quest for effective radioprotectors has been underway for decades. New radioprotectors—chemical compounds used to protect living organisms from ionising radiation—are tested under very stringent conditions. Astronauts, for example, need protection from exposure to extremely high levels of radiation when crossing the Van Allen belts. The Sun itself can blast the Earth with X-band coronal mass ejections with little warning, thus another need for radioprotectors.

There is a layer of radioactive particulates from Fukushima, Japan, that's an additional threat to our atmosphere. Weather (rain, snow, storms) tends to bring it down, and many locations now have to endure sporadic increases of up to 10 times the normal background radiation. The Nuclear Emergency Tracking Center (NETC) posts RADCON level alerts that are updated every minute anywhere in the world (see <http://www.netc.com/>).

The need for a new concept in addressing these issues is greater today than ever before. Radiation levels have increased to such an extent that some form of protection or supplement is required to deal with changes in our exposure.

Activated charcoal and related carbon-based compounds have always had a place in our medicine chests. Enter the recent Ukrainian and Russian studies with fullerenes, a group of special carbon-form structures that trap water inside specific geometric surfaces. This is one of the newest directions around the nature and structure of water.

## Fullerene Water in Detoxification and Radiation Protection

Fullerene water has been shown to have significant health-promoting properties (see <http://www.c60water.com/en/protection.html>). It seems to increase the liver's capacity to detoxify and excrete toxic substances. To prevent hangover or mitigate its effects, for example, it suffices to take several drinks of such water before or after drinking alcohol. The same should be done in the event of a possible toxic hazard or a case of food poisoning.

Pre-clinical studies at the National University of Pharmacy, Ukraine, found that fullerene water facilitates recovery of haemodynamic (blood flow) and trophic processes in the liver, and has a pronounced hepatoprotective effect.

Clinical studies at the Kharkov National Medical University, Ukraine, involving fullerene water treatment of patients with chronic hepatitis of toxic origin, demonstrated a significant decrease in clinical manifestations of the disease, frequency of cytolysis syndromes, immune inflammation and livercell deficiency. It's suggested that fullerene water can be included in the combination treatment of liver pathology with a viral and toxic aetiology. Pre-clinical studies showed that water containing carbon molecules had a cardioprotective effect by inhibiting myocardial intoxication and producing a pronounced normalising effect on cardiac muscle functionality.

In experimental alcoholisation models, fullerene water effectively protected animals from alcohol's toxic effect in the setting of prolonged chronic action of ethylene doses and prevented injury of the tissues in the brain and liver—organs that are most exposed to the effects of alcohol.

Researchers from the Institute of Physiologically Active Compounds in Kharkov, Ukraine, the Institute of Theoretical and Experimental Biophysics in Pushchino, Russia, and other institutes exposed rats to X-ray doses which caused severe radiation disease and death in all animals. The use of fullerene water made for the survival of 15 per cent of animals, although subsequent studies showed a greatly improved survival rate.

Pre-clinical studies at the Grigoriev Institute for Medical Radiology of the National Academy of Medical Science of Ukraine tested the effect of water at lower radiation doses.

In the group of experimental rats given ordinary water, 37 per cent died after being exposed to radiation. Intake of fullerene water in a 15-day period (five days prior to exposure and 10 days after) made for the survival of 95 per

cent of the animals, the course of the radiation disease being significantly relieved.

Fullerene water is recommended for those who, due to their professional activity or for diagnostic purposes, will be exposed to, are being exposed to or have been exposed to ionising radiation.

In May 2011, the Institute of Physiologically Active Compounds offered assistance to the government of Japan, via the ambassador to Ukraine, to help those suffering from radiation exposure after the Fukushima Daiichi Nuclear Power Plant disaster. It's believed that the offer wasn't accepted.

### **Discovery and Structure of Fullerenes**

Dew drops are formed during the cooling of water vapour. When graphite vapour is cooled, carbon atom "droplets" are formed. These carbon balls were discovered in 1985. Sixty carbon atoms form a sphere with a striking similarity to a soccer ball (or football), reduced by 200 million times. As with the football, the carbon molecule is hollow inside. Because of this similarity, researchers wanted to call this molecule "footballene", but then decided to honour American architect R. Buckminster Fuller—inventor of the geodesic dome, which resembles this carbon molecule—by naming it "buckminsterfullerene C60", shortened to "fullerene C60", the "buckyball". (See image 1.)



Image 1: Fullerene C60 compared with a soccer ball.

Five-petalled flowers, sea stars and human biomolecules are monosymmetrical. The fullerene C60 molecule has six fivefold rotational axes and a number of other notable geometric attributes. This is the only molecule in nature with such unique symmetry.

It is noteworthy that these carbon molecules were found first in a laboratory and only then in nature. They were discovered in the North Karelian shungites in northwestern Russia as well as in fulgurites in the USA and India. They are also present in some grades of activated carbon. In nature, fullerenes are formed by lightning bolts, natural gas combustion and volcanic eruptions. In 2010, fullerenes were found in large quantities in space as gases, and in 2012 they were discovered as solids. In 2011, researchers published the results of their investigations of air samples taken above the Mediterranean Sea; they found fullerenes in all 43 air samples taken from Barcelona to Istanbul.

### **Water Caged in Buckyballs**

The fullerene is a carbon allotrope, i.e., it exists in different forms. It's 100 times stronger than diamond or graphite. Fullerenes can be of different types, e.g., C60, C70, etc., depending on the number of carbon atoms. The most stable and best studied is the C60, with 60 carbon atoms. It is the only molecular form of carbon, in contrast to diamond and graphite which are crystalline forms with a certain spatial arrangement of carbon atoms in the lattice. Nature brought together in one object many contradictory concepts. The fullerene is a link between organic and inorganic matter.

It is a molecule, a particle and a cluster. The diameter of the C60 molecule is one nanometre.

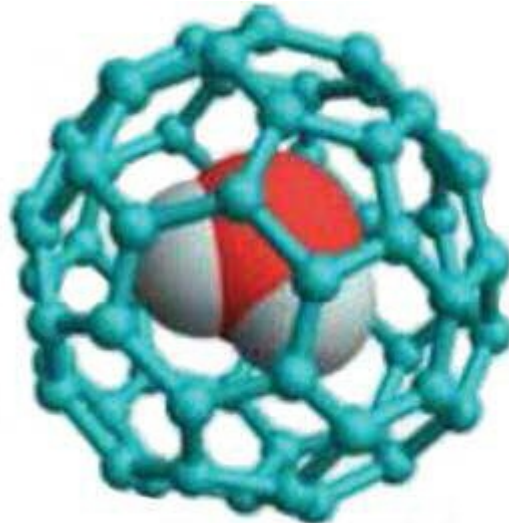


Image 2: A water molecule captured within a C60 fullerene.

If you look inside the fullerene, you'll find only an emptiness pierced by electromagnetic fields containing "nothing", a "vacuum bubble" enclosed in a carbon shell. This does not fit the well-known thesis that nature does not tolerate a vacuum. Vacuum and matter are two pillars of the universe that harmoniously unite in one molecule.

The fullerene carbon shell does not allow penetration into it of any material particles (ions, atoms or molecules), but the spaces between carbon atoms allow the ingress of small molecules such as those of water and atoms like hydrogen. (See image 2 above.)

### **Health Benefits of Fullerene Water**

Among fullerenes' fundamental properties, which are apparent at the level of both the cell and the whole organism, are their incredible antioxidant actions. They suppress the processes of peroxidation and free-radical oxidation. They behave as the most powerful and long-acting antioxidants known.

As a means of fighting free radicals, oxygen atoms lack a single electron which they then take away from a living cell. The antioxidant activity of a fullerene has 1,000 times the effect of any other known antioxidants (like vitamin E or P-carotene).

Thanks to their acceptor properties, fullerenes are able to interact selectively with other molecules. When in a water environment, they transfer these properties in orderly layers of water at a considerable distance from their surface. This action filters and restructures the water in your body. It is believed that it is the geometric structure of the fullerene itself that restructures the water.

Fullerenes normalise cellular metabolism, increase enzyme activity and strengthen the stability of the cell, including its genetic apparatus, against external influences (heat, viruses, etc.). As a result, the regenerative ability of body tissues improves.

In addition, fullerenes normalise the nerve processes, influencing the exchange of neurotransmitters and improving the capacity for and resistance to stress. Fullerenes also have explicit anti-inflammatory and antihistamine effects and thus can relieve pain, suppress the development of many allergic diseases and improve immunity.

Fullerenes function even in ultrasmall doses (as in homeopathy) and their effects can last for months, even after a single dose. Studies in this arena began with Dr Rustum Roy of Pennsylvania State University.

Many pathologies in a living organism can be overcome and health returned to normal with fullerene treatment.

### **Fullerenes in Nature**

Fullerenes are everywhere in nature, and especially where carbon and high energy exist. They can be found near carbon stars, in interstellar space, in places where lightning has struck, and close to volcano craters. They even form when gas burns in the household gas cooker or in the flame of a regular lighter. Fullerenes can also form nanotubes of carbon (see image 3 below) and become superconductors.



Image 3: Artist's rendition showing smaller C60 molecules inside a larger nanotube. ]

Fullerenes have been found in places of ancient carbon-rock accumulation. The Karelian shungite mineral has a special place in this regard. These rocks are comprised of up to 80 per cent pure carbon and are about two billion years old. The nature of their origin is still not clear. One suggestion is that they resulted from the impact of a large carbon meteorite.

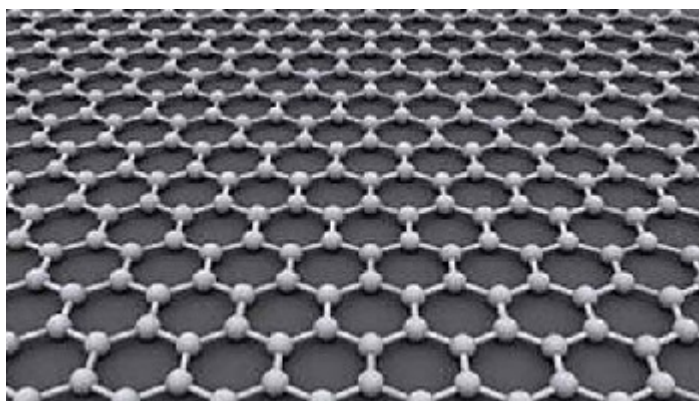


Image 4: A two-dimensional graphene structure.

It was in 1992 that natural fullerenes were found in shungite. By 1999, using the idea of obtaining hydrated fullerene water solutions, one laboratory succeeded in extracting and identifying fullerene, but only C60, in high-carbon type-I shungite.

Since the time of Peter the Great, a spring known as the Marcial Waters, in Karelia, has been famous for its therapeutic properties. It was assumed that increased iron content was responsible, but there are many springs containing iron and as a rule the medicinal effects after their use are rather limited. It was only when fullerenes were found in shungite rocks, through which the spring flows, that it was hypothesised that fullerenes are the key to the Marcial Waters' medicinal effects.

When stored, these life-giving clusters disintegrate. Fullerenes do not dissolve in water spontaneously. This is why there is no structure-forming element that is able to preserve ordered water clusters for long periods. Such water soon takes on the properties of regular water. In addition, the ions present rebuild native water structures themselves, forming their own hydrated clusters.

Fullerene water comprises just carbon balls dissolved in water. But when water comes into contact with a fullerene, it restructures the relationship of one fullerene with the next, forming a nanotube.

**Carbon Nanotubes**

Carbon nanotubes are forms of carbon (like diamond) with a cylindrical nanostructure. Nanotubes have been constructed with length-to-diameter ratios of up to 132,000,000:1, significantly larger than for any other material known at this time. Their bonds are stronger than even those of diamonds.



These cylindrical carbon molecules have unusual properties. In particular, owing to their extraordinary thermal conductivity and mechanical and electrical properties, carbon nanotubes are used as additives to various structural materials. For example, nanotubes form a tiny portion of the materials in some primarily carbon-fibre products like baseball bats, golf clubs and car parts.

Nanotubes are members of the fullerene structural family. Their name is derived from their long hollow structure, the walls formed by one-atom-thick sheets of carbon called "graphene". (See image 4.) These sheets are rolled at specific and discrete (mirror-image) angles, and the combination of the rolling angle and radius decides the nanotube's properties.

Nanotubes are categorised as single-walled nanotubes (SWNTs) and multi-walled nanotubes (MWNTs). (See image 5.) Individual nanotubes naturally align themselves into "ropes", held together by van der Waals forces; more specifically, this is called "pi stacking".

### **Shungite as a Water Purifier**

When formed as a nanotube, fullerenes become filters for such toxins as radioactive particulates and heavy metal ions. When placed in water, the fullerenes in carbon-rich shungite attract and neutralise waterborne contaminants.

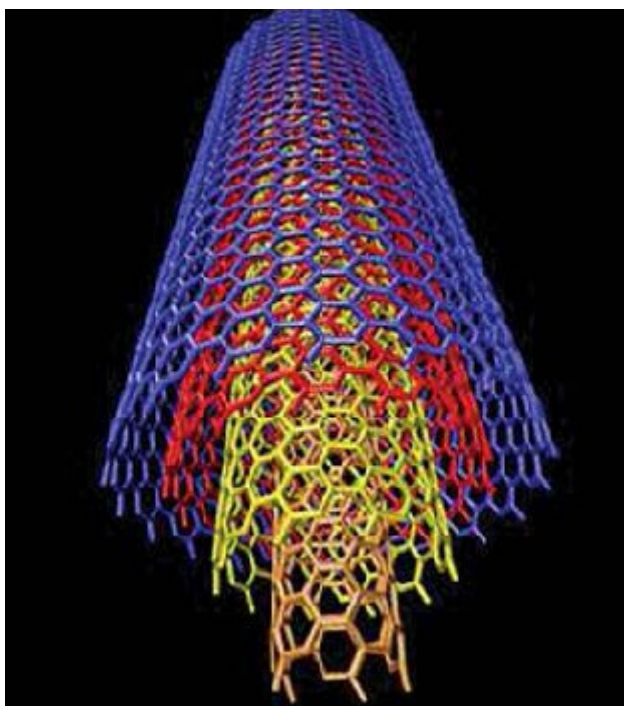


Image 5: A multi-walled nanotube.

Shungite has been used commercially in Russia as a water filtration/purification medium since the 1990s (see <http://tinyurl.com/poaptct>). Among the contaminants it can remove are pathogenic bacteria and other microbes, nitrates, copper, magnesium, iron, heavy metals, pesticides, volatile organic chemicals, pharmaceuticals, and chlorine and fluorine compounds. Shungite can also clean up visually dirty water and eliminate any sour taste. One of the reasons why shungite can neutralise contaminants is because its fullerene composition can hold a tremendous amount of hydrogen.

Shungite's ability to cleanse water goes far beyond carbon filtration, as demonstrated by the water from Lake Onega near the shungite deposits in Karelia, Russia. Water from the lake can be used for drinking without any prior treatment—the result of thousands of years of interaction with shungite. During the 1990s, many experiments and studies on shungite's influence on the human body were conducted. The mineral has been documented as having a high oxidative/reductive capacity, and shungite water is known for its antioxidant effect. Scientists have concluded that shungite water is absolutely nontoxic.

Shungite water has been found to have a strong antibacterial effect. During one experiment, shungite water was contaminated with *Streptococcus* groups A and D. After only half an hour in the shungite water, the concentration of *Streptococcus* group D decreased by a factor of a 100 and group A by a factor of nine hundred!

Fullerenes offer limitless possibilities in preventing and treating radiation sickness, improving health and neutralising

environmental toxins.

**About the Author:**

Dr Richard Alan Miller, based in Oregon, USA, is a physicist and herbalist with expertise in growing and marketing botanicals. His interest in fullerenes as a potential remedy for radiation exposure was sparked by his own experience with radiation damage.

Author of diverse papers and books on metaphysics, parapsychology and alternative agriculture, his recent books include *Power Tools for the 21st Century* (reviewed in 20/05) and *ESP Induction through Forms of SelfHypnosis* (17/03). Recent contributions to NEXUS are "The New Directions of Mind Control" (20/04), "ESP Induction through Self-Hypnosis" (17/03) and "The *Cordyceps sinensis* Medicinal Mushroom" (16/03).

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## Demystifying bacterial gold

by Dr Nandkumar M. Kamat © 2011

Geomicrobiology is the study of microbiological aspects of the Earth system. However, it is a relatively neglected field in India. Microbiologists attempt to understand something about geology, but geologists in general seldom make similar attempts to understand the importance of geomicrobiology and the overwhelming, growing volume of research in this area.

The news about the discovery of gold in rocks in north Goa, India—at a depth of 65 metres in tilloid deposits—is as unbelievable for many people as is the detection of living bacteria on the surface of Mars. Deposits of primary gold are expected and well known; but secondary gold, involving bacterial action, is entirely different.

So far, mineral prospecting efforts have been directed without any emphasis on detecting deposits formed due to microbial action. The reason for scepticism and disbelief is that such findings are something unexpected and unconventional.

In 1983, Russian microbiologists E. D. Korobushkina, G. I. Karavaiko and I.M. Korobushkin produced the first paper on the "Biochemistry of Gold".

In 1999, a paper by David Mossman, Thomas Reimer and Hans Durstling was published, titled "Microbial Processes in Gold Migration and Deposition: Modern Analogues to Ancient Deposits" [*Geoscience Canada*, vol. 26, no. 3], which has been highly cited.

In 2007, Frank Reith, from Australia, wrote a mini-review titled "Geomicrobiology of Gold".

These are essential readings for anyone to understand the formation of bacterioform gold anywhere in the world.

Gold is a noble metal and can be found in near pure form in nature. The field of gold biomineralisation is relatively new, with most work having taken place in the last 30 years.

Today, scientists are working on creating nanoparticles of pure gold by employing microorganisms. There are several metal-tolerant species of bacteria which can grow in toxic concentrations. The age of nanobiotechnology of noble metals has already dawned.

Almost seven years ago, my good friend, nanobiotechnologist Absar Ahmad from the National Chemical Laboratory [Pune, India], began a series of experiments to synthesise gold nanoparticles.

He used bacterial and fungal cultures and succeeded in getting beautiful, ultramicroscopic forms, like prisms.

The question was whether naturally occurring microorganisms—bacteria, fungi and algae—could carry out such work, i.e., the processing of primary gold to create different shapes, in their natural habitats. These interesting forms are known as *bacterioform gold*.

There is no unanimity over bacterioform gold. Reports on the detection of these forms from field prospecting are sporadic. Therefore, encountering such forms—which include simple grains, cylinders, thin plates, leaves, micronuggets, stars, starfishes, folded lattices with definite cellular architecture—in sampled deposits from Goa comes as an opportunity as well as a challenge for researchers of bacterial gold.

Microorganisms, which are postulated to create such intriguing architecture, are not ordinary. These are chemolithotrophic and can utilise sulphur for their growth and metabolism.

Compounds of gold could exist as sulphides or sulphates. It is the sulphur that is attacked by these sulphur-loving bacteria. So when they exhaust the sulphur, the gold is left behind. It is rather an excretory-depository process.

What happens when dead bacterial cells are entombed in pure gold? Such mummified or embalmed bacterial microcolonies, commonly known as *biofilms*, would produce intricate cellular architecture that displays fine grains and cavities.

An exhaustive study on gold biomineralisation has been done by Frank Reith from the University of Adelaide,

Australia.

He examined the bacterial biofilms on grains of secondary gold found in Australia using powerful analytical techniques. He knew about all the previous work and claims about bacterial involvement in bacterioform gold deposits. He simulated some conditions in the laboratory under which bacteria could accumulate and precipitate pure gold.

From this success, Reith concluded that his studies provided the evidence that bacterially mediated processes contribute to the formation of secondary gold grains. He claimed that he had identified the dominant group of organisms as *Ralstonia*—a species that may gain a metabolic advantage by living in areas of high gold toxicity. This species, Reith speculated, uses precipitation of toxic gold complexes as a biological detoxification mechanism. He concluded that the structures described as bacterioform gold by previous authors may indeed be of bacterial origin.

Now what does the latest research demonstrate? How many geologists are aware of the new findings?

Larry O'Hanlon reported on the Australian research published in *Geology* magazine on Discovery News on 1 September 2010:

"'Gold nuggets are often the creations of bacterial biofilms,' say Australian researchers who have demonstrated the process and even identified the bacteria at work. 'Layers of bacteria can actually dissolve gold into nanoparticles, which move through rocks and soils, and then deposit it in other places, sometimes creating purer secondary' gold deposits in cracks and crevices of rocks.'"

What does this really mean in understanding the nature of prospected and unprospected gold deposits? The Australian research proves that the process overturns the long-held belief by some scientists that gold ore is created only by "primary" physical geological processes.

This was a big blow to age-old beliefs about the origin of primary gold. How did the Australians do it?



A bioreactor uses gold-loving bacteria to turn liquid gold into useable, 24-carat gold. (Photo by G.L. Kohuth. Source: <http://tinyurl.com/8oudq4s> )

They looked at the DNA in biofilms that grew on gold grains collected from the Prophet Gold Mine in southeast Queensland. During this process, Frank Reith and his colleagues discovered that among the bacteria, almost 90 per cent were of just two species: *Delftia acidovorans* and *Cupriavidus metallidurans*. These bacteria were found to share genes that make them resistant to the toxic effects of heavy metals.

What are the implications of this discovery for the claims of finding bacterioform gold in Goa, India? The deep lithosphere of Goa has metabiospheres which harbour active bacteria capable of forming almost pure gold.

A systematic, publicly funded, responsible prospecting effort would prove that gold of bacterial creation is not a figment of imagination but a scientific and ecological reality. (Source: *NavHindTimes.in*, 8 January 2011)

### **THERE'S GOLD IN THEM THERE MODIFIED BACTERIA!**

A genetically modified version of a bacterium that extracts gold from its environment can signal the presence of the precious metal. The result could be a boon for prospectors.

Some bacteria are known to be associated with gold deposits<sup>1</sup>, but it has been unclear whether they play a role in its production—and, if so, what that is.

Now Frank Reith of the University of Adelaide, South Australia, has found that dissolved gold is harmful to the bacterium *Cupriavidus metallidurans*, as it forms a toxic sulphur-containing compound when it is absorbed from the environment.

This compound inhibits the bacterium's enzyme function, prompting the distressed microbe to activate a cluster of "gold detox" genes that produce enzymes able to convert the soluble gold compounds into harmless particles of metallic gold.

### **Hand-held Prospector**

Knowing how microbes do this will open up a whole new way of prospecting, says co-author Gregor Grass of the University of Nebraska. Reith and Grass have developed a genetically modified version of *C. metallidurans* that produces a visible response when the detox genes are switched on.

"When the microbes come into contact with gold, they flash a light that can be detected using a hand-held photometer," says Grass.

He envisages that prospectors will be able to detect whether gold is present simply by taking a sample of soil and adding modified bacteria to it.

"There have been reports that bacteria can enhance the production of gold for some time," says John Stolz, an environmental microbiologist at the Bayer School of Natural & Environmental Sciences at Duquesne University in Pittsburgh, Pennsylvania.

"But this is the first time scientists have actually identified how they do it."

(Source: *NewScientist.com*, 5 October 2009, <http://tinyurl.com/ygvud8k>; journal article at <http://tinyurl.com/llhwph>; article<sup>1</sup> at <http://tinyurl.com/lzn23ge>.)

# Secrets and Treasures of the Mongol Empire

In the 13th century, united Mongol tribes expanded their lands to create the largest empire the world had ever seen, invading new territories with brutal force. Legends tell of an armoured metal cart that no arrow could pierce, and the search for Knights Templar treasure in Lake Issyk-Kul in Central Asia.

by Paul Stonehill  
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## The Hounds Unleashed

These are four hounds of my Temujin, reared on human flesh. He tied them to an iron chain. These hounds have copper foreheads, carved teeth, thorn-like tongues and iron hearts. Instead of a horse lash, they use crooked sabres. They drink dew and ride the wind. In battles, they devour human flesh. Now they have been unchained from their chain. They salivate; they are merry. The four hounds are Jebe, Khubilai, Jelme and Subutai.

These words above are what Jamukha, the blood brother (*anda*) of Temujin, said of the bloody Universal Ruler and his fellow fighters, according to Mongol folklore. Jamukha, a relative and clan chief, helped Temujin free his family when it was kidnapped. In 1206, the "hounds" captured Jamukha, who had rebelled against Temujin, now known as Genghis Khan (the Universal Ruler), and murdered him. When they captured Jamukha, Genghis Khan did Jamukha the honour of having him killed by rolling him up in a carpet and crushing him with boulders so that his blood would not be spilled.

In the years that followed, the "hounds" also killed millions of people throughout the world and crushed thriving civilisations into dust during their conquests of new territories. The Mongols of the 13th century laid waste to nations, cities, towns and villages. Their cruelty was but a part of their comprehensive strategy of conquest. The Mongols instilled fear and sought to convince the world that resistance was futile. They made sure that the tales of their savagery and merciless slaughter preceded them.

## An Armoured Cart and an Anomalous Artefact

The Mongols transported their tents in four-wheeled carts, and they also used two-wheeled carts covered with black felt, which they waterproofed with tallow. Such carts were usually drawn by camels, horses or oxen, and they provided enhanced and rapid mobility. The carts carried the Mongols' families, belongings, supplies and provisions.

Mongol records tell that Subutai Bagatur, one of the "hounds", had a habit of resting in an unusual vehicle during his military campaigns. This vehicle was made of a special metal which no arrow could penetrate. According to Russian author Viktor Nikitin, in the late 1990s a two-wheeled metal-covered vehicle was unearthed during archaeological excavations in the vicinity of Pusan (Busan), a city in what is now South Korea. (The episode is mentioned in Nikitin's book *Tayni inikh mirov* ["Secrets of the Other Worlds"], St Petersburg, 2001.) A chemical analysis of the metal indicated that it was alloyed steel with an admixture of molybdenum and tungsten. A bullet cannot penetrate the sheathing made from this metal.

Years ago, I made enquiries about this vehicle and wrote letters to archaeologists in South Korea and others in the United States who study Korean archaeology. I received no replies and I've not been able to ascertain the veracity of the find.

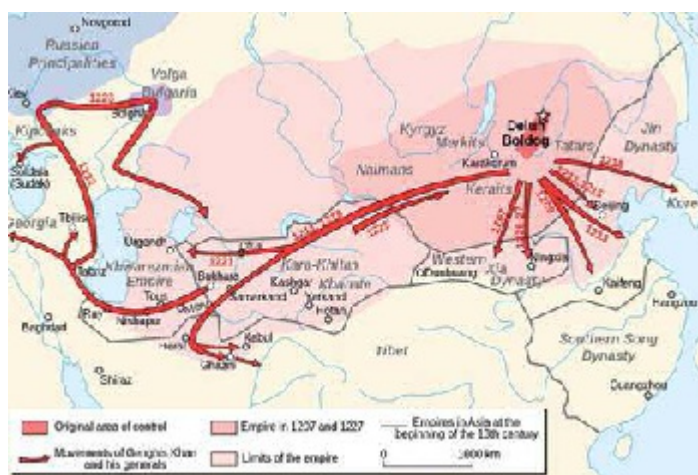
If the Russian author is correct, then I have to ask: how would 13th-century nomadic horsemen from the Asiatic steppes be able to create such a molybdenum-tungsten vehicle when they were not advanced metallurgists?

There is another mystery, this time from Eastern Europe. In the 1980s, a Soviet archaeological expedition uncovered a very strange stone while digging in a 19th-century debris layer at Chernihiv (or Chernigov) in northern Ukraine. According to Margarita Novgorodova, PhD, Director of the Fersman Mineralogical Museum in Moscow, no one has solved the mystery of the so-called Chernigov artefact. As described in *Komsomol' skaya Pravda* (Orenburg, 26 May 2005), its size is that of an adult human's fist. It is incredibly hard, and the only way to cut it is by using a diamond saw. The stone turned out to be tungsten carbide, which cannot exist in nature and can only be produced by technological means. The experts concluded that the alloy was produced in the mid-19th century—but by whom, and how? According to Dr Novgorodova, similar alloys have been considered for use in "stealth" aircraft technology.

## Fame Measured in Blood

In the 13th century, Mongolia was one of the most powerful states in the world. A capable Mongol warrior and a chieftain called Temujin gathered various scattered nomadic tribes under his leadership, founded the Mongol Empire in 1206 and assumed the title Genghis Khan (also spelled Chingghis or Jenghiz Khan). The difficult and bloody process of establishing the nomadic state is described in the famous Mongolian document *Mongolyn nuuts товчоо* ("The Secret History of the Mongols").

Genghis Khan conquered the northeastern part of China in 1211 through 1215 and used the military prowess of his united tribes to create an empire that eventually spanned from China to Turkey and Iraq, from Egypt to Russia, all the way over to Korea and down to Vietnam— the largest empire known to mankind. Before his death in 1227, Genghis Khan divided the Mongol Empire into four khanates, led by his sons and grandsons, but these evolved over time.



Map showing the expansion of the Mongol Empire. (Source: wikipedia.org)

Of all the military commanders who arrived from Mongolia, Genghis Khan's general Subutai Bagatur was the greatest and fiercest. He led the western onslaught of the Mongol army against Russia, Europe and the Caucasus countries. Subutai outlived Genghis Khan and continued to serve his people under Batu Khan (a grandson of Genghis Khan) and Ogodei (also Ogedei or Ugedey, Genghis Khan's third son and his successor).

It was Subutai and another trusted general, Chepe Noyon, who, each with a battalion-sized military unit, terrorised the Chinese countryside, cleverly using the rich technology of the Chinese against them. Then the Mongol leader marched out against Central Asia in 1219, launching an offensive against Muhammad II, Shah of Khorezm. The detachment of the Mongol army, led by generals Jebe and Subutai, the same detachment that had made war on Muhammad and his son Jalal-ad-Din Mingburnu, attacked the kingdom of Georgia several times in the early 1220s.

In 1221, a scouting or reconnaissance detachment of 15,000 Mongols separated from the Central Asian expedition and travelled around the Caspian Sea, exploring the lands on its western shore. It was Subutai, with Jebe, who led the Mongol horsemen when they met with a superior Russian force and its Kipchak-Cuman (known in Russian and Ukrainian as Polovtsy) allies who tried to stop the Mongol invaders. But the Mongol light cavalry outmanoeuvred the Russian forces and defeated them in 1223 in the Battle of the Kalka River. Russia was conquered later, in 1237 and 1238. Batu Khan sent Subutai to quell a revolt led by Jiku and Baian, Bulgar chieftains of the Middle Volga, in 1238 and 1239. Next, Subutai's forces descended upon the Ukrainian steppe, conquering the Polovtsy in 1239 and Kiev in 1240.

Subutai then set his sights on Europe. Hungary attracted the Mongols because of its wide-open steppes, and Subutai divided the Mongol army and began the invasion. In 1241, the Mongol invaders charged into central Europe and defeated the combined armies of Germany, Poland and Bohemia in the Battle of Liegnitz (Legnica) in Silesia.

Other parts of Subutai's force descended into Hungary from the Carpathian Mountains from several directions. The Hungarian king fled and the Mongols conquered the country, establishing garrisons and their control.

Only the news of the death in Mongolia of Batu Khan's uncle, the Great Khan Ogodei, in 1241 saved Western Europe from Subutai and his merciless, disciplined, fearless Mongol hordes. In 1242, the Mongols returned to Mongolia.

Subutai was put in charge of the campaign against the Song Chinese in 1246-47 but died in 1248.

Korea is an ancient country with a history going back more than 5,000 years, but it experienced many bloody periods, Mongol invaders responsible for one of them. In 1231, the Mongols invaded the Kingdom of Goryeo

(Korea), forcing the royal family to flee to Ganghwa Island near Seoul. After 25 years of struggle, the royal family finally surrendered. The following 150 years saw continued Goryeo Dynasty rule, but under the control of the Mongols.

In 1271, Khubilai Khan established the Yuan Dynasty as a division of the Mongol Empire and assumed the role of Emperor of China. By 1279, he had conquered all of China and turned his sights to continuing his invasions of other empires of Southeast Asia.

He also invaded Korea and tried to conquer Japan from there, but failed. Unlike Genghis Khan's, his army consisted mostly of infantry with little cavalry, but Khubilai Khan was the first Mongolian ruler to have a navy. Perhaps he also had in his possession Subutai's two-wheeled covered metal vehicle made of molybdenum and tungsten.

### **Minerals and Metallurgy in China**

Based on my research, I've come to the conclusion that the Mongols brought the mysterious metal vehicle from China. Subutai shed enough blood and spent sufficient time in China to loot the country of its treasures.

At one time in its history, China was the world's most technologically advanced society. Indeed, for much of antiquity into the Middle Ages, China was far more advanced than Europe. Many significant innovations were developed in ancient China, but could the Chinese mine tungsten and produce tungsten steel?

In metallurgy, China has long held a leading position and has deposits of all the minerals known in the world.

Today, there are verified reserves of 151 different minerals. China is among the countries that lead the world in the use of such nonferrous metals as tungsten, tin, antimony, zinc, mercury and lead. On 18 September 2000, the *People's Daily* announced that Chinese geologists had discovered deposits of nickel, copper, cobalt, platinum, tungsten and gold in what used to be part of the Great Silk Road: the Hexi Corridor in northwestern China. The actual reserves in the corridor could be twice as much as the verified discoveries.

I've been interested in ancient metallurgy for some time and I learned of such places as Luoyang, one of the cradles of Chinese civilisation and one of the Four Great Ancient Capitals of China. Luoyang lies in the northwestern part of Henan Province. The deposits there abound in molybdenum, aluminium and tungsten. Jiangxi Province in southeastern China also has rich mineral resources such as tungsten, selenium, tellurium, rubidium and lithium.

The ancient Chinese developed methods for the manufacture of steel which have only recently been matched in the West. They invented a method for converting cast iron into steel by blowing air onto the molten metal, which reduced the carbon content.

In 1956, archaeologists excavating the tomb of a Chinese military commander (who died in 297 CE) unearthed 20 metal belt ornaments. These were lab-tested and found to be made of aluminium with an admixture of up to 10 per cent copper and five per cent manganese. (See *Ancient Inventions* by Peter James and Nick Thorpe, 1995.)

We've yet to find evidence of the ancient production of tungsten master-alloys or of who designed these advanced technologies in antiquity—and why. Until we do, the mystery of Subutai's impenetrable vehicle remains unsolved.

However, there's another interesting episode in Subutai's biography that involved the search for treasure.

### **Treasures of Lake Issyk-Kul**

Kyrgyzstan, a mountainous country, is nestled between the Uzbek deserts, the Kazakh steppe, Tajikistan and the outback of Western China. The majestic Tian Shan and Pamir mountain ranges stretch across this country. Lake Issyk-Kul, a turquoise-coloured closed drainage basin, is located at an altitude of 1,607 metres and occupies the central part of the valley surrounded by the snowcapped Kungey Ala-Too and Teskey Ala-Too mountain ranges.

This vast lake lies in northeastern Kyrgyzstan near the borders with China and Kazakhstan.

Issyk-Kul is one of less than 20 ancient lakes on Earth and is estimated to be approximately 25 million years old. It is the world's second-largest highland lake (after Lake Titicaca, bordering Peru and Bolivia). It's 182 kilometres long and up to 60 kilometres wide with a maximum depth of about 670 metres, although its shoreline has changed through the ages.

The lake greatly affects the climate of the area. It doesn't freeze in winter; its waters are surprisingly warm and exceptionally transparent.

This so-called Pearl of Central Asia (also known as the Atlantis of Central Asia) conceals numerous mysteries. Associated with it are Neanderthal camps, ancient burial mounds, mysterious dolls made from stones, and clusters of cave rock drawings. There are more than 100,000 stone inscriptions (petroglyphs) on the shores of Lake Issyk-Kul, dated to the Neolithic period. Different nomadic tribes that had dwelt in the area left artefacts from their now



long-vanished cultures. There are ruins of strange settlements, towns and graves hidden beneath the lake's warm waters, some of these dated to the first millennium CE.

There are many legends of treasures buried at the bottom of Lake Issyk-Kul. Historians are of the opinion that there may be over 200 large and small treasures buried in the lake. Fragments of ceramics with Christian symbols and a piece of a ceramic jug bearing the Star of David have been discovered. There are old Arab legends about a lost city built by Persian captives of Alexander the Great, and rumours about treasures of the antiBolshevik military forces. Many other stories abound.

In the 19th century, archaeologists discussed the remnants of an ancient city at the bottom of Lake Issyk-Kul which contained an Armenian Christian monastery. A Catalan map was found, dating to 1375 CE, which shows Issyk-Kul and a structure with a cross over it on the northern shore, marking the location of the Armenian monastery alleged to contain the remains of Matthew the apostle.

Archaeologists of Central Asia are aware of more than a dozen sunken ancient and mediaeval settlements on the bottom of the lake: for instance, the town of Chigu, capital of the once powerful state of the Usuns. They have discovered ceramics, earthenware pottery, bronze and copper artefacts, coins and items from the Mongol period. The Mongols had their own name for Lake Issyk-Kul: *Femur-u-nor*.

### **The Silk Road and the Mongols**

From the second century BCE, the Great Silk Road functioned as an extremely important trade route from China to the capital of the Roman Empire. The road was about 7,000 kilometres long.

Before the discovery of the sea route to India, the Silk Road was the most important connection between the Orient and the West. The most valuable commodity imported from China was silk; hence, the entire transcontinental trade route was named the Silk Road. But many other commodities were also traded: gold, ivory, exotic animals, plants, iron, furs, ceramics, jade, bronze objects, lacquer, precious stones and glass.

Religion, too, was a precious commodity of the Great Silk Road, for Buddhism came to China from India along the northern branch of the trade route. Scattered throughout the mountains and valleys of Kyrgyzstan are numerous ruins of Zoroastrian, Buddhist and Armenian or Nestorian Christian monuments.

The geographic location of Kyrgyzstan assured its significance on the Great Silk Road. From the very beginning, three branches of the Silk Road ran through the area. There had been settlements and caravanserais on the shores of Issyk-Kul from the seventh century BCE. There are still ruins of three towns in this region: Navekat, Suyab and Balasagun. The towns prospered and trade thrived. That is, until 1219-1220 when Mongol warriors under Genghis Khan invaded and devastated the territory that comprises modern Kyrgyzstan.

In 1218, Genghis Khan sent his "hound" Jebe and a large military detachment to the Chuy Valley in the northern Tian Shan region. Ogodei was a participant in the military operation. Their goal was to take the town of Balasagun. This town, established in the ninth century, was one of the capitals of the Kara-Khanid Khanate and then the Kara-Khitai Khanate of Central Asia.

The Mongols destroyed irrigation systems, laid waste to towns and turned farms to dust. The devastation inflicted on the territory was so harsh that the populations and cultures of Central Asia did not begin to recover until the Russian expansion there in the 19th century.

But before their prosperous towns were annihilated, the rich inhabitants hid their treasures, either in the soil or on the bottom of the beautiful lake.

Who knows what fate befell those who secreted their treasures away from the merciless invaders...

Local Christians, together with monks of the abbey in Suyab, near Balasagun, also knew quite well that the enemy was coming their way, so they fled, taking their treasure with them. They organised a convoy of 200 camels loaded with gold and jewels, and travelled quickly along the north shore of Issyk-Kul towards Kashgar. Kashgar is located about 1,300 metres above sea level in a cul-de-sac formed by the Tian Shan, Pamir and Kunlun ranges in what is now China's Xinjiang Province, close to the borders with Tajikistan and Kyrgyzstan. It was a major Silk Road town and a crossroads for invading armies.

The Christians never reached Kashgar because another Mongol military unit was approaching from the Santash mountain pass, over the watershed between the Ili and Issyk-Kul basins. The trapped Christians decided to hide their treasure. They buried part of it in an Armenian Christian abbey in the area. They hid another part of the treasure on the shore of the lake and in its coastal waters. They took the remaining treasure to a cave in the mountains.

There was a river that ran into this cave, and the Christians were able to divert its waters for a while. They hid the treasure in the cave, probably burying it in the ground, and placed stone slabs over the hiding place.

They marked one slab with a cross and then covered everything with soil. The river was again allowed to run into the cave and the treasure was saved or lost, depending on one's point of view.

### **Nestorians, Templars and Mongols**

When Emperor Constantine made Christianity the official religion of the Roman Empire in the middle of the fourth century, he suppressed Hellenistic teachings and alchemy, among other things, regarding them as pagan. The Nestorian Christians, a dissident sect of Armenian ethnicity, smuggled their forbidden manuscripts out of Syria and fled to Persia by the middle of the fifth century. The sect's followers spread out and founded colonies along the Silk Road through Central Asia. Nestorian Christianity flourished in China for several hundred years. Legend has it that the Nestorian Christians reached Lake Issyk-Kul and founded a monastery on the northern shore in about the eighth century.



Lake Issyk-Kul from space, September 1992. (Source: Wikipedia.org)

The Nestorians allegedly aided the Knights Templar in building a castle somewhere on an island in Lake Issyk-Kul. This is claimed to be the place to which the Templars brought some of their fabulous treasure. I'll not explore the countless myths and legends about this Order, but I suggest it would be of great interest to historians to find out what the fearsome Mongol commander knew about the Templars. They'd met on the Polish battlefield of Liegnitz in 1241, but the Knights Templar were no match for the Mongol armies.

Perhaps one of the captured knights knew too much about the treasure hidden by his Order in Issyk-Kul and revealed the information under torture.

The search for treasures has not stopped since the Mongols arrived at Lake Issyk-Kul. But what sort of treasures were the Mongols looking for? None other than the warrior Subutai hunted for treasures in the waters, including supposedly the hidden riches of the Knights Templar. The defeated and humiliated China was ordered to provide skilled divers for Subutai's project.

### **Treasures of Genghis Khan**

In 1227, Genghis Khan was severely injured when he fell from a horse during a hunt; he died shortly afterwards. It has been largely accepted by historians that Genghis Khan died while he was fighting in Xiaxia, a territory bordering the present-day autonomous Chinese regions of Ningxia and Inner Mongolia.

The truth surrounding the death and subsequent burial of Genghis Khan is still shrouded in mystery. Some legends suggest that he was buried in the Ordos Plateau (Inner Mongolia) region of China and that a shrine was built there.

There are conflicting accounts as to why the Universal Ruler would choose this area; some state that he would have done so because of its beauty.

The tradition was that Mongol noblemen had no tombs.

However, imperial temples were built to allow commemoration of royal ancestors.

The exact gravesite of Genghis Khan is one of archaeology's lasting mysteries. To conceal the actual gravesite, 800 soldiers apparently massacred every one of the 2,000 people who attended his funeral. In turn, the 800 soldiers were killed on orders of their superiors to ensure that Genghis Khan's rest would be undisturbed. One legend has it

that thousands of horses were raced over Genghis Khan's grave to erase any trace of it and the treasure buried within. As a rule, when any Mongolian nobleman died, his burial immediately became a taboo subject, but not to the extent of Temujin's.

Some Mongol researchers also point to the Altai Mountains as the burial place of Genghis Khan, while others suggest that some of his belongings were buried in Ordos as a cover.

China has had a special relationship with the legacy of the Universal Ruler. Basically, most rulers of China, including of the Ming and Qing dynasties, the Kuomintang Republican regime and the Communists, gave official recognition and support to the founder of the Mongol Empire—all this respect, even after the collapse of the Khubilai Khan-established Yuan Dynasty of China. The Red Guards of the Cultural Revolution had no such respect and destroyed some important artefacts from Genghis Khan's times.

Even today, one can learn much from a visit to the Genghis Khan Mausoleum (*Chengjisihan ling*) near Dongsheng, China. The mausoleum, built in 1954-56, is the biggest attraction in that part of Inner Mongolia.

There are experts in China who discount Mongolia as the burial place of the Ruler of the Universe. One sceptic is Luo Xinyou, a professor at the Institute of National Minorities at the Chinese Academy of Social Sciences in Beijing. According to him, a Mongolian legend suggests that Genghis Khan was buried secretly in a mountainous region (Agence France-Presse, 23 August 2001). Which mountainous region, though?

Scientists in Kyrgyzstan believe that the treasures and the body of the Universal Ruler were actually hidden at the bottom of Lake Issyk-Kul. There are old Kyrgyz legends about how Genghis Khan's son Ogodei prepared a coffin made of a very hard, durable material. He put his father's body, along with treasures of gold and jewels, into the coffin and buried it on the bottom of the lake. But there were more Mongol treasures to hide, and that is precisely what Ogodei did: he placed the jewels in a mountain cave that was later flooded.

I found interesting details about the Soviet treasure hunt in the area in the early 1950s. There were reports that the KGB and the Geological Council of the Kyrgyz Soviet Socialist Republic were engaged in the search for Genghis Khan's treasures in 1952. An obscure but very informative Kyrgyz ecological website contained information about this search for the Universal Ruler's treasures; alas, the site is no longer in existence. The search was based on a map which the Red Chinese gave to their then Soviet allies. Tyup village was supposedly the location of the hidden treasure. Allegedly, the gold and silver were hidden under a huge rock named Kaznak.

However, it is unclear whether the treasure that the Soviets were trying to find was that of the fleeing Issyk-Kul Christians (most likely, because the people who hid it were described as being chased by nomads) or of the Mongols. The map was very poor and nothing was discovered, probably because local inhabitants had secretly and skilfully sabotaged the work. The area was surrounded by barbed wire, and guards were placed to protect the treasure that the Soviets intended to find regardless of obstacles. The biggest obstacle, however, was Stalin's death in 1953 and the turmoil that followed.

In 1973, the popular Soviet newspaper *Trud* published an article about treasures hidden throughout the Soviet Union. *Trud* mentioned Tyup as the location where Genghis Khan's treasure was buried. The information was based on Soviet secret police files from the 1930s. On 24 August 1975, the Soviet newspaper *Pravda* ran an article titled "Return to the Secret", stating that the Ministry of Internal Affairs was searching for Genghis Khan's treasures in Lake Issyk-Kul. One of the sources for this information is the Karakol Russian-language website (see <http://tinyurl.com/m54ge7m>).

Kyrgyz geologists conducted some activities in 1976 and 1977, but these were hushed up. The geologists had researched ancient legends and went looking for the treasures in the area of Kurmenti Canyon, on the northern shore of the lake.

There were once gold and silver mines there, but the geologists were looking for treasure and apparently found some proof but needed input from archaeologists.

There have been freelancers on the hunt as well, especially after the fall of the USSR, because the new civic code of the Kyrgyz Republic states that anyone who finds treasure has the right to a reward worth 50 per cent of the discovered treasure's value.

Whatever one's opinion of the Mongol conquests may be, I think we can all agree that looting or disturbing ancient sacred graves is not the answer to finding out the truth about the past. Modern Mongol people will not look kindly on anyone who disturbs the burial ground of their ancient leader.

In their tradition, no one is allowed to lay their hands on the bones of their ancestors, and they must respect the will of Genghis Khan: he did not want any sign of his grave to be left after his death, lest his everlasting peace be disturbed.

There is a Mongol legend that the Universal Ruler will be reborn 800 years from the day of his death.

**About the Author:**

Paul Stonehill is a researcher, author and lecturer specialising in anomalous phenomena, especially Soviet and Russian military research into the subject. He is the author of numerous articles for UFO-related magazines, as well as of several books including *Paranormal Mysteries of Eurasia* (Galde Press, USA, 2011), *UFO Case Files of Russia* (with Philip Mantle; UK, 2010; reviewed in NEXUS 17/05) and *The Soviet UFO Files: Paranormal Encounters Behind the Iron Curtain* (Quadrillion Publishing, UK, 1998). He has contributed 10 articles to NEXUS, the most recent being "Cosmonauts on UFOs and Strange Phenomena", "Revelations of the Cosmonauts" and "Surprising Anomalies of China's Sichuan Province" (21/06, 21/05, 21/04).

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# New Findings at the Bosnian Pyramids Complex

## Part 1 of 2

Radiocarbon dating of organic material found within the Pyramid of the Sun in Bosnia indicates that the structure may be 34,000 years old. Ocean sediment flood debris dates suggest that the pyramids complex survived three flood events, the earliest 31,000 years ago.

by Paul A. LaViolette, PhD  
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### Signs of a Technologically Advanced Ice-Age Civilisation

On 1 September I flew to Sarajevo to take part in the Hidden History Tour & Conference 2014, organised by Dr Sam (Semir) Osmanagich (31 August to 6 September). I decided to go there after receiving an email from a friend who had just returned from a week-long sojourn at the pyramids and tunnels in Bosnia-Herzegovina. She was ecstatic about her experience, and her enthusiasm infected me.

I contacted the people there who were planning the week-long conference and archaeological tour in Bosnia just two weeks hence, and I was fortunate enough to be included as a conference lecturer.

I was totally astounded by what has been discovered there and by the immense volunteer effort that has gone into the excavation of this site, people coming from all over the world to help. Some of the excavation team come with previous experience, which makes them valuable assets.

The pyramids are located in the immediate vicinity of the town of Visoko, Bosnia, which is about 30 kilometres northwest of Sarajevo.

Dr Osmanagich is the archaeologist who originally discovered the pyramid complex in 2005. He also heads the archaeological foundation excavating the pyramids and the nearby tunnel system. He has written a book entitled *Pyramids Around the World & Lost Pyramids of Bosnia*, which summarises some of the findings of the excavation. He is awesome in that he has been able to orchestrate this entire excavation project in spite of being shunned by many mainstream archaeologists and archaeological societies.

Of course, not all archaeologists agree with these critics. At the NEXUS Conference 2007, researcher Philip Coppens mentioned the names of a number of well-qualified scientists who came to Visoko to study these structures and concluded that they are not natural formations (see [http://www.philipcoppens.com/nexus07\\_2.html](http://www.philipcoppens.com/nexus07_2.html)). For example, Professor Mohamed Ibrahim Aly, an Egyptologist who now serves as Minister of State for Antiquities Affairs in Egypt, was convinced of the authenticity of the Bosnian pyramids and was curious to know who were their architects. Egyptian archaeologist Dr Nabil Mohamed Abdel Swelim, who discovered four pyramids in Egypt, said he's convinced that the Bosnian Pyramid of the Sun is "an amazing structure of great importance for the entire world". Professor Mona Fouad Aly (Conservation Department, Faculty of Archaeology, Cairo University), who was accompanied by Dr Soliman Hamed Soliman El-Gewaly, an expert on the Pharaonic Period in Egypt (Egyptology Department, Faculty of Archaeology, Cairo University) and geologist Dr Ali Barakat (Egyptian Mineral Resources Authority), stated her group's conclusion as follows: "Everything that we have seen so far tells us that human hands built these structures a long time ago."<sup>1</sup>

### The Pyramids and Megaliths at Visoko, Bosnia

Following are some facts about the Pyramid of the Sun and a few of the other megalithic structures at Visoko.

**1)** There are five pyramids and two tumuli located in relatively close proximity to one another, i.e., within a few kilometres of distance. The largest, which has been named the Pyramid of the Sun, is the tallest pyramid in the world (see image 1). It has a visible height of 220 metres. Sarajevo engineer Senad Bahor estimates that it could even be as high as 360 metres, based on a 3D computer model constructed through analysis of satellite ground imagery. This estimated height includes the portion of the pyramid that lies below the current ground level, having been buried beneath flood deposits.

The Bosnian Pyramid of the Moon comes in at second place with a height of 190 metres. By comparison, the Great Pyramid of Giza, which formerly held the record as the tallest pyramid in the world, now comes in at third place with a height of only 146.5 metres.

On this trip I did not have a chance to travel to the Pyramid of the Moon, at which site the volunteer archaeologists have also made some extremely interesting findings. Nor did I see any of the other, smaller pyramids. So, as a result, this discussion focuses more on the Pyramid of the Sun and the tunnel system.

**2)** The Pyramid of the Sun is oriented with respect to true north with an error of only 12 seconds of arc! This orientation is far more accurate than that of the Great Pyramid, which has an orientation error of about 3.0 minutes of arc—an error 15 times greater!



Image 1: Pyramid of the Sun, Visoko, Bosnia (Source: P. LaViolette © 2014)

The other pyramids are also oriented with respect to true north. The three largest pyramids, the Pyramid of the Sun, the Pyramid of the Moon and the Pyramid of the Dragon are each separated from one another by approximately 2.18 kilometres, with an error of less than 2.0 per cent, to form the three apexes of a near-perfect equilateral triangle. Natural mountains simply don't arrange themselves with this kind of precision to form such geometric patterns.



Image 2: Fossilised leaves found in a clay layer under a concrete slab forming a side of the Pyramid of the Sun and excavated in Trench 12A. (Source: Image courtesy of T. Moon)

**3)** This pyramid complex is the oldest known man-made structure in the world. A radiocarbon date obtained by a Kiev laboratory in 2013 on organic material (*see image 2, left*) found under one of the concrete slabs of the Pyramid of the Sun indicates an age of  $\sim 29,200 \pm 400$  carbon-14 (C-14) years before present, or  $\sim 33,800 \pm 400$  calendar years before present. A study<sup>2</sup> that correlates the Cariaco Basin radiocarbon record to the Hulu cave chronology indicates that, for this radiocarbon date, a correction of 4,600 years must be added to convert its value into an actual calendar-year date. The date discrepancy is due to changes in the amount of radiocarbon in the Earth's carbon reservoir which arise in part due to past episodes of enhanced solar cosmic ray flux and changes in climate. As a result, the amount of this calibration changes with time. Other radiocarbon dates which were determined following excavation of the Bosnian Pyramid of the Sun back up its ice-age antiquity. For example, a date secured by the Kiev lab in 2012 on organic material found above a concrete layer and beneath the overlying clay deposit layer covering the pyramid indicates a later burial date of  $\sim 24,800 \pm 200$  C-14 years, equivalent to  $\sim 30,000 \pm 200$  calendar years. This supports the earlier date cited above for the creation of the pyramid.

A study<sup>3</sup> published in August 2014 in *Nature* has determined that Neanderthal man became extinct about 41,100  $\pm$  1,000 calendar years ago (using the Cariaco radiocarbon calibration). So, adopting a date of  $\sim 33,800$  calendar years for the time the pyramid was constructed, we conclude that it was built  $\sim 7,000$  years after the extinction of Neanderthal man.



Image 3: Concrete slab layer forming part of the side of the Bosnian Pyramid of the Sun, excavated near the bottom of the north face of the pyramid. (Source: P LaViolette © 2014)

**4)** The main structure of the pyramid is constructed of a concrete made from gravel conglomerate that was mined from a flood conglomerate layer which underlies the pyramid and is present in adjacent areas (see images 3 and 4). Evidence that this material was mined from this flood layer is seen in the existence of a vast network of many kilometres of tunnels surrounding the pyramid, accessible from the nearby Ravne area. These ice-age miners apparently disposed of their excavated conglomerate by using it as raw material to make the concrete encasement for the Pyramid of the Sun. This shows careful planning and an ergonomic shrewdness in conducting this vast construction project, one that greatly outstrips our own modern accomplishments.

The pyramid's concrete has been laboratory tested and been determined to be of artificial origin, not natural origin. Tests have shown that it has a hardness and resistance to water penetration equal to the best concretes achieved in this 21st century. Analysis showed that its fabricators made this by mixing their mined conglomerate rock material with a special cement binder made of roasted lime and clay. The concrete was cast to form large slabs that were separated from one another by clay layers for greater structural stability. Also, the builders used a slab interleaving technique that has the advantage of improving its structural stability.



Image 4: Another section of concrete slab excavated on the north side of the pyramid. (P. LaViolette © 2014)

Although this may not evoke the aesthetic appeal of the polished stone surfaces evident in some ancient monuments, the choice of the construction method nonetheless evokes an appreciation of brilliance, one that allowed efficient fabrication of the pyramid structure encasement from local raw materials.

**5)** Leading up the west side of the pyramid there is an inclined formation called the "access plateau". It has the shape of a ramp that is 420 metres long, 35 metres wide, inclined at about 20 degrees and paved with sandstone tiles that have apparently been cut by human hand and transported to their present location.

**6)** The pyramid is covered with ice-age flood deposits which are deeper on the south side of the pyramid. I propose that these deposits that buried the pyramid were transported by mega-tsunamis of glacial meltwater created by what I call *continental glacier waves*—meltwater avalanches rushing down the surface of a continental ice sheet. These tsunamis with wavefronts measuring up to a thousand kilometres wide and travelling forward at hundreds of kilometres per hour would have come from the north, the pyramid at that time located about 600 kilometres south of the southern edge of the European ice sheet. This flood assault would explain why the deposits are much deeper on the pyramids south side, since this would have been the leeward side where deposits would have most easily collected to a greater depth. Just the presence of these deposits, which are seen to cover the Pyramid of the Sun as well as the other associated pyramids, is proof by itself of the ice-age antiquity of these edifices.



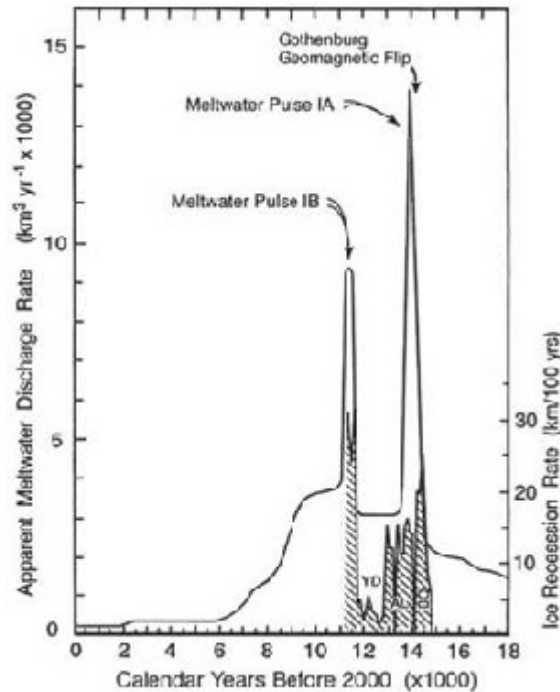


Image 5: Rate of sea-level rise evident in the Barbados coral reef ocean-level profile (P. LaViolette © 1997)

Geologists in the region all agree that this flood layer is at least 12,000 to 15,000 years old. Here they are likely associating this deposit with the glacial meltwater floods which occurred globally during the Bolling phase of the Bolling-Allerod interstadial -14,000 years ago and produced what has been termed "meltwater pulse 1A" in the Barbados coral-reef record (which shows the rate of sea-level rise) (see image 5). Hence, the rate of flood meltwater discharge into the oceans became very high around this date. There was also a flood period that occurred a few thousand years later, ~11,600 years ago, associated with the abrupt onset of the Preboreal warming at the termination of the ice age, which produced what is called "meltwater pulse 1B" in the Barbados record—which not surprisingly coincides with Plato's date for the sinking of "Atlantis" (i.e., the disappearance of the continental ice sheet).

But there were floods before these that were associated with abrupt climatic warmings and intervals of ice-sheet melting. For example, there was the flood that produced Heinrich event H1 around 16,000 years ago, another that produced Heinrich event H2 around 24,500 years ago, and yet another that produced Heinrich event H3 around 31,000 years ago (see image

**6).** These flood events are evidenced by the presence of deposits of lithic continental debris transported far out into the North Atlantic Ocean—not by gradually melting icebergs, as some geologists have proposed, but by mountainous floods of glacial meltwater that once surged over ice shelf-covered or iceberg-covered waters hundreds of kilometres from the ice-sheet margin.

What was happening in the North Atlantic Ocean was also happening on the continents themselves all over Europe, Siberia and North America as waves of glacial meltwater perhaps half a kilometre high or more made their way southwards in the northern hemisphere and northwards in the southern hemisphere, travelling at hundreds of kilometres per hour across thousands of kilometres of forested land. Also at danger would have been regions of South America bordering the Andean ice sheet and subject also to transoceanic onslaughts from the Antarctic ice sheet, with even Australia being vulnerable.

The Bosnian pyramids just happened to be in harm's way, and so became covered with these flood deposits and left to look like the natural hills and mountains in the area that also are seen to be covered with these same flood deposits. This gives us reason to wonder about what more of this ancient pyramid-building civilisation lies buried beneath these extensive flood deposits that fill Bosnia's valleys and even top the hills and mountains.

Each successive flood event would have eroded away the deposits left by previous flood assaults to leave the most recent flood deposit as the one that would most extensively cover the pyramids. But because the archaeologists excavating the Bosnian Pyramid of the Sun have found much earlier radiocarbon dates associated with its structure—those dates mentioned above—we may infer a much greater antiquity for the pyramid than that inferred from the meltwater pulse 1B flood deposits. In effect, based on our accounting of the preceding Heinrich events, these pyramids appear to have survived at least three previous flood episodes. Even Plato in his *Timaeus* dialogue records

the priest of Sais as relating to Solon, governor of Athens, that antediluvian Athens had been swept by at least two other major floods prior to that which brought the demise of Atlantis. So, even our flood legends acknowledge the existence of multiple flood episodes.

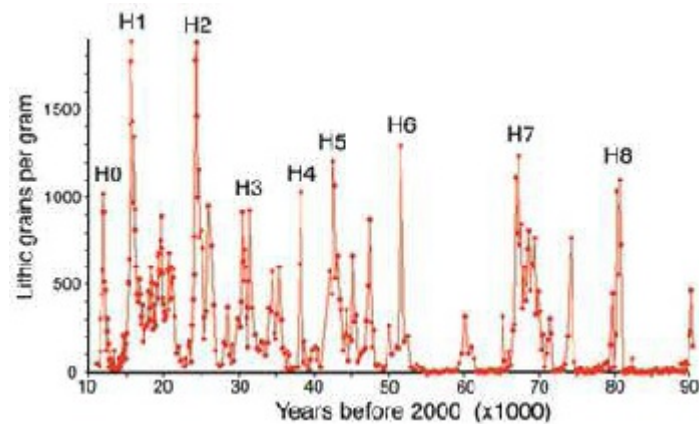


Image 6: Dates of Heinrich Events occurring during the last 90,000 years in the northern hemisphere (P. Laviolette © 2014)

As I describe in my book *Earth Under Fire*<sup>4</sup> and in my PhD dissertation<sup>5</sup>, these glacier waves would have been generated during periods of major climatic warming when the ice-sheet surface was melting at an accelerated rate and producing perched meltwater lakes on its surface at altitudes of as much as two to three kilometres. All it would have taken was a breach of an ice dam retaining the side of one of these lakes and the flood wave so generated, upon reaching adjacent perched lakes, would have triggered them as well to discharge their contents, and so on with a continual growth in the wave's volume, linear extent and kinetic energy as it progressively spread across the thousands of kilometres of ice-sheet surface, descending in altitude as it advanced (see image

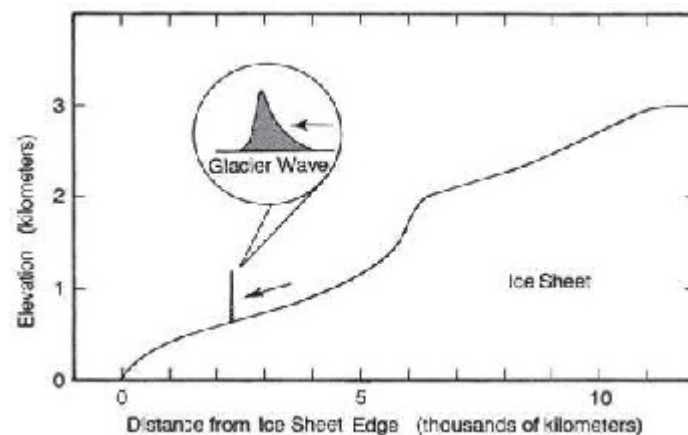


Image 7: Illustration of a continental glacier wave growing in size and velocity as it descends the continental ice sheet. (P. LaViolette © 1983)

The end result is a simple extrapolation of the principles of hydraulics and mechanics. This mechanism accounts for the many flood legends recorded in cultures all over the world that have been handed down to the present generation by word of mouth.

**7)** To continue with the unusual features of the Pyramid of the Sun, between 2010 and 2012 eight different teams of scientists from five different countries came to Bosnia to conduct measurements of energy waves coming from a number of the megalithic structures at Visoko as well as within the Ravne tunnel system. They were all highly qualified professionals and came with very-high-end and expensive measuring equipment. They came as sceptics and left as believers, seeing the reality of what their data showed.

Surprisingly, they found that an electromagnetic (EM) energy beam issues vertically from the peak of the Pyramid of the Sun. It usually has a diameter of 8.5 metres, but varies in size and can sometimes reach a diameter of ~30 metres. Its position is also observed to move around in a radius of about 15 metres. It has a median frequency of around  $28 \pm 6.0$  kilohertz (kHz), and is found to vary in intensity with its voltage amplitude ranging from 40 millivolts to 4.0 volts. Its signal may even be absent for some periods.

This beam was found to be accompanied by an ultrasonic wave beam of similar frequency that was measured as having a diameter of five to six metres, to move similarly around the pyramid in a radius of 15 to 20 metres, and to vary in intensity and even shut off entirely for periods of 10 minutes or so. Weather was observed to affect the intensity of the ultrasonic beam. Hills or mountains are not normally known to radiate directed-energy beams spontaneously from their tops. So, if anything, the presence of such beams coming from the top of the Pyramid of the Sun should indicate that its outer soil deposits are covering something that is quite unusual and certainly not of natural origin.

No one knows how the beams are generated, but it is highly unlikely that the electromagnetic beam is being radiated by a radio antenna of the sort with which most are familiar. To radiate a 28-kHz radio signal, a quarter-wavelength dipole antenna would need to have a length of at least 2.7 kilometres! This is far longer than the diameter of the radiation beam itself. Moreover, such antennas normally radiate over a very wide angle; they do not confine their emission to a beam.

Beam emission is found in lasers, but such beams are monochromatic (having a single, discrete frequency) and this electromagnetic beam is not. Moreover, no laser is known to lase at such a low frequency. One possibility is that it might be a phase-conjugate beam similar to those used in microwave weaponry and aerospace propulsion technologies developed by the military. For example, such a beam technology was developed in the black project codenamed Project *Skyvault*, as described in my book *Secrets of Antigravity Propulsion*.<sup>6</sup> But here again, the existence of this pyramid EM beam would imply the development of highly advanced technology, perhaps more advanced than what 21st-century science has achieved, in Stone Age times!

The anomalous character of the beam is strengthened by the observation that its signal intensity is found to become greater with increasing distance above the apex of the pyramid. The beam has been detected as high as 30 metres above the pyramid by means of a radiocontrolled drone, and aircraft flights are planned to see if the beam can be detected at even higher altitudes. As one possibility, one might imagine that the beam may have a source above the pyramid, i.e., in space. But this would require a geostationary satellite, which, if present, should be known to most superpower departments—which raises questions as to who would have placed such a probe aimed down at this particular pyramid and why the military would allow this homing signal to be broadcast.

Another possibility that has been suggested is that the source of the beam is located hundreds of metres *beneath* the centre of the pyramid. In 2012, a team of 16 engineers, physicists and research assistants, led by Croatian electrical engineer and physicist Dr Slobodan Mizdrak, conducted an experiment in which they fed a 40-watt signal ranging from 23 to 33 kHz through a square antenna deployed along the top perimeter of the pyramid. The experiment attempted to create an interference between their applied signal and the signal beam that was naturally emerging from the top of the pyramid. The resulting interaction was picked up by a series of electromagnetic-wave and ultrasonic-wave sensors placed at different locations around the pyramid. They acquired 39 hours of data, about a gigabyte, which was recorded by a series of electronic data loggers. A triangulation technique was used and the data was then analysed by computer at an institution for statistics in Belgrade and at another institution in Vienna specialising in advanced mathematics.

The results implied that the pyramid's electromagnetic beam originates 2,440 metres underneath the pyramid apex, just over two kilometres below its base. Interestingly, this is about the same distance as that separating the main pyramids (discussed in section 2). Also, it was determined that the signal requires a power source of at least 10 kilowatts. Dr Mizdrak theorised that at this two-kilometre depth there might be a large dishshaped iron layer whose centre is displaced 410 metres away from the pyramid's central axis, about 10 degrees off axis, and which is somehow being electrically energised to emit these electromagnetic waves and focus them towards the pyramid's apex. This would explain why the signal increases in intensity as one moves upwards from the top of the pyramid. That is, this subterranean antenna dish may be focusing at a point some tens of metres above the pyramid, which would result in the signal strength's increasing as this point of convergence is approached. But this dish would need to have a radius of 2.7 kilometres to emit this wave properly,

A power source that has continued to function for 34,000 years? The thought begins to give one the chills. If it were indeed encapsulated at the time of the pyramid's construction, this would imply the existence of a high-tech fuelless generator that has been functioning for over 30,000 years. The existence of advanced technology in the ice-age era does not come as that much of a surprise when we understand that highly advanced scientific concepts are encoded in ancient star lore and preserved in ancient Egyptian, Babylonian and Greek creation myths (see *Earth Under Fire* and *Genesis of the Cosmos*<sup>7</sup>). But as we shall see shortly, there may be a more practical explanation.

These Bosnian Pyramid of the Sun emissions really push the ancient technology paradigm to the limits of credibility. We are reminded of the 1968 book by Arthur C. Clarke and the film 2001: *A Space Odyssey*, in which astronauts unearth a monolith on the Moon, its presence having been detected by a signal that it was periodically broadcasting. But the existence of the signal at the top of the pyramid is undeniable, having been measured by scientists from a number of universities.

Admitting that the signals are there and the possibility that the pyramids are associated with technology as advanced, or more advanced, than our own is probably more than most mainstream archaeologists would be willing

or able to handle. They would likely block out the whole matter from consideration—pyramid, tunnels and all—no matter what supporting proof were presented for the pyramid's authenticity, because to admit its existence would mean that they must step into what they regard as "woo-woo land".

Show them evidence that there was organised human civilisation building pyramid structures during the middle of the ice-age period and they become suspicious. Show them evidence that this civilisation may have been technologically highly advanced and they become very angry. More than anything, the denial by mainstream archaeologists reflects on their own psychological limitations when confronted with what, to them, is utterly unknown or impossible.

A similar 28-kHz energy beam has been detected emanating from the top of the Bosnian Pyramid of the Moon, where the beam is seen to have a radius of about 10 metres—except, in this case, the primary beam is found to be modulated by a beam of slightly higher frequency of around 42 kHz. This is 1.5 times higher in frequency. In effect, the 28-kHz and 42-kHz signals would be like second and third harmonics of a 14-kHz signal. So, there is a definite indication that a resonance phenomenon is taking place within the pyramids.

What was the purpose of generating these signals? Pyramid researcher Valery Uvarov, at the 2014 conference in Sarajevo, suggested that they might be spacecraft homing-beam markers. The idea of a homing beam may not seem that far-fetched when we realise that modern airports use this same concept to guide landing aircraft. They transmit an electromagnetic homing beam that aircraft radio equipment locks onto to guide their landing while on autopilot. Of course, to make this interpretation, it is already helpful to be convinced that there were air vehicles visiting Earth in ancient times. Not everyone, though, is ready to accept such an idea. However, I find the notion quite plausible, for some of the advanced knowledge encoded in the zodiac star lore could only be known if a civilisation had flight above the atmosphere.

As I describe in my book *Earth Under Fire*, the zodiac meticulously encodes the directional deployment in the sky of the dipole anisotropy that astronomers observe in the omnipresent 3.0 kelvin microwave background radiation. The zodiac shows warmer temperatures in Leo that progressively get cooler as one moves around the zodiac towards Aquarius, just as scientists observe to be the case for this dipole anisotropy.

The difficult pill for mainstream archaeoastronomers to swallow is that flight above the Earth's atmosphere was needed in order for this fact to be discovered. Ideally, modern astronomers needed satellite data. Moreover, they required microwave detectors that utilised superconductors cooled to liquid helium temperatures, advanced integrated-circuit technology to acquire the data, satellite telemetry and a significant amount of number-crunching using mainframe computers to extract from the data this faint dipole anomaly which is 1,000 times less intense than the microwave signal itself.

Yet we know that the zodiac is over 5,000 years old, and, based on radiocarbon dating of a wall painting of the Taurus constellation found in the Lascaux cave in France, it may date back as much as 17,000 years, hence well into the ice age. Bring evidence that such advanced technology may have existed during the last ice age and you will send most by-the-book archaeologists into a head-spin or heading rapidly for the nearest door. They don't even want you to tell them about it, although former Egyptian antiquities minister Dr Zahi Hawaas may be concerned only with how the Bosnian pyramids "threat" might have an impact on tourism in Egypt.

Continued next issue...



### **About the Author:**

Dr Paul A. LaViolette received his BA in physics from Johns Hopkins University, his MBA from the University of Chicago and his PhD from Portland State University. He is the author of several books including: *Subquantum Kinetics*; *Galactic Superwaves and their Impact' on the Earth*; *Earth Under Fire* (reviewed in NEXUS 5/02); *The Talk of the Galaxy* (8/02); *Genesis of the Cosmos* (11/05); *Decoding the Message of the Pulsars*; and *Secrets of Antigravity Propulsion*.

He edited the 1981 book *A Systems View of Man* and has published numerous original papers in physics, astronomy, climatology, systems theory and psychology. His article "A Galactic Superwave Hazard Alert" appeared in NEXUS 8/02. His articles "Close Approach to Galactic Centre of Cloud G2 in July 2013" and "Possible Arrival of a Galactic Superwave Within Months" were published in NEXUS 20/03.

Dr LaViolette is founder and president of The Starburst Foundation (<http://starburstfound.org>). He can be contacted by email at [starburstfound@aol.com](mailto:starburstfound@aol.com).

### **Endnotes**

1. Osmanagich, S., *Pyramids Around the World & Lost Pyramids of Bosnia*, The New Era Times Press, USA, 2012
2. Hughen, K. et al., "Marine-derived <sup>14</sup>C Calibration and Activity Record for the Past 50,000 Years Updated from the Cariaco Basin", *Quaternary Science Reviews* 2006; 25:3216-3227, <http://tinyurl.com/q9dxaq6>
3. Higham, T. et al., "The timing and spatiotemporal patterning of Neanderthal disappearance", *Nature* 2014 Aug 21; 512:306-309, <http://tinyurl.com/q4u7uh8>
4. LaViolette, P.A., *Earth Under Fire: Humanity's Survival of the Ice Age*, Bear & Co., Rochester, VT, USA, 1997, 2005
5. LaViolette, P.A., "Galactic explosions, cosmic dust invasions, and climatic change", PhD dissertation, Portland State University, Oregon, 1983
6. LaViolette, P.A., *Secrets of Antigravity Propulsion*, Bear & Co., Rochester, VT, USA, 2008
7. LaViolette, P.A., *Genesis of the Cosmos*, Bear & Co., Rochester, VT, USA, 1995, 2004



## **Beyond Angkor: How Lasers Revealed A Lost City**

by Ben Lawrie © September 2014

Deep in the Cambodian jungle lie the remains of a vast mediaeval city which was hidden for centuries. New archaeological techniques are now revealing its secrets—including an elaborate network of temples and boulevards, and sophisticated engineering.

In April 1858, a young French explorer, Henri Mouhot, sailed from London to Southeast Asia. For the next three years he travelled widely, discovering exotic jungle insects that still bear his name. Today he would be all but forgotten were it not for his journal, published in 1863—two years after he died of fever in Laos, aged just thirty-five.

Mouhot's account captured the public imagination, but not because of the beetles and spiders he found.

Readers were gripped by his vivid descriptions of vast temples consumed by the jungle: Mouhot introduced the world to the lost mediaeval city of Angkor in Cambodia and its romantic, aweinspiring splendour.

"One of these temples—a rival to that of Solomon, and erected by some ancient Michelangelo—might take an honourable place beside our most beautiful buildings. It is grander than anything left to us by Greece or Rome," he wrote.

His descriptions firmly established in popular culture the beguiling fantasy of swashbuckling explorers finding forgotten temples.

Today, Cambodia is famous for these buildings. The largest, Angkor Wat, constructed around 1150, remains the biggest religious complex on Earth, covering an area four times larger than Vatican City. It attracts two million tourists a year and takes pride of place on Cambodia's flag.



A view of the temple of TaProhm, Angkor, Cambodia

But back in the 1860s, Angkor Wat was virtually unheard of beyond local monks and villagers. The notion that this great temple was once surrounded by a city of nearly a million people was entirely unknown.

It took over a century of gruelling archaeological fieldwork to fill in the map. The lost city of Angkor slowly began to reappear, street by street. But even then, significant blanks remained.

Then, last year, archaeologists announced a series of new discoveries about Angkor—and an even older city hidden deep in the jungle beyond.

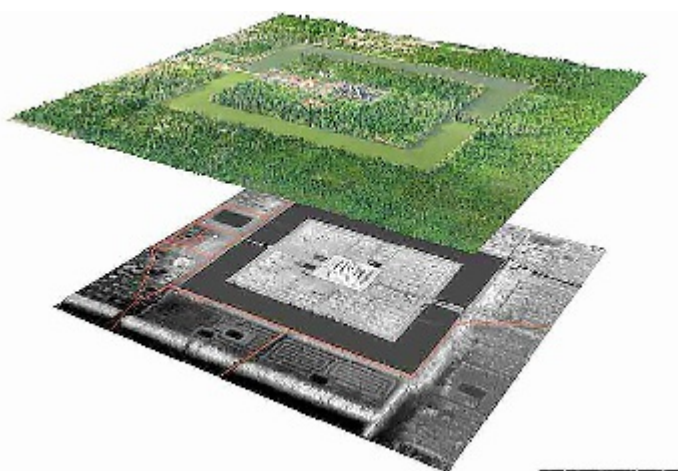
An international team, led by the University of Sydney's Dr Damian Evans, had mapped 370 square kilometres around Angkor in unprecedented detail—no mean feat given the density of the jungle and the prevalence of landmines from Cambodia's civil war. Yet the entire survey took less than two weeks.

Their secret? Lidar, a sophisticated remote-sensing technology that is revolutionising archaeology, especially in the tropics.

Mounted on a helicopter crisscrossing the countryside, the team's lidar device fired a million laser beams every four seconds through the jungle canopy, recording minute variations in ground surface topography.

The findings were staggering. The archaeologists found undocumented cityscapes etched onto the forest floor, with temples, highways and elaborate waterways spreading across the landscape.

"You have this kind of sudden eureka moment where you bring the data up on screen the first time and there it is—this ancient city very clearly in front of you," said Dr Evans.



An oblique view of Angkor Wat and its immediate environs. Upper layer: digital orthophoto mosaic, with elevation derived from the lidar digital surface model at 1-m resolution. Lower layer: Extruded lidar digital terrain model, with 0.5-m resolution and 2x vertical exaggeration. Red lines indicate modern linear features including roads and canals. (Source: Damian H. Evans *et al*, "Uncovering archaeological landscapes at Angkor using lidar", *PNAS* 2013 Jul 30: 110[31]:12595-600, <http://tiny url.com/meqw6ac> )

These new discoveries have profoundly transformed our understanding of Angkor, the greatest mediaeval city on Earth.

At its peak in the late 12th century, Angkor was a bustling metropolis covering 1,000 square kilometres. (It would be another 700 years before London reached a similar size.)

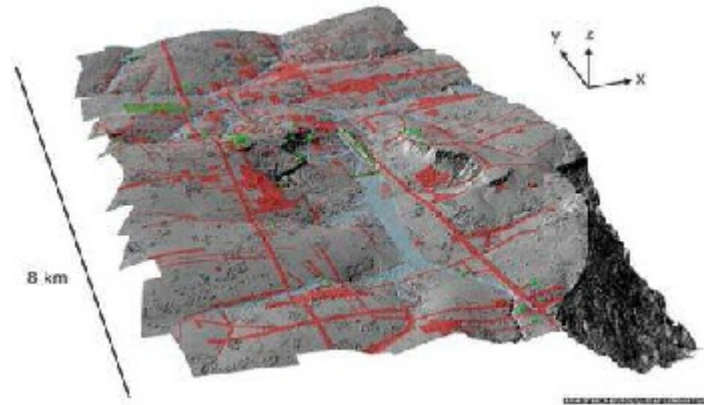
Angkor was once the capital of the mighty Khmer Empire, which, ruled by warrior-kings, dominated the region for centuries. It covered all of present-day Cambodia and much of Vietnam, Laos, Thailand and Myanmar, but its origins and birthplace have long been shrouded in mystery.

A few meagre inscriptions suggested that the empire was founded in the early ninth century by a great king, Jayavarman II, and that his original capital, Mahendraparvata, was somewhere in the Kulen hills, a forested plateau northeast of the site on which Angkor would later be built.

But no one knew for sure—until the lidar team arrived.

The lidar survey of the hills revealed ghostly outlines on the forest floor of unknown temples and an elaborate and utterly unexpected grid of ceremonial boulevards, dykes and man-made ponds—a lost city found.

Most striking of all was evidence of large-scale hydraulic engineering, the defining signature of the Khmer Empire.



Lidar revealed the first capital of the mediaeval Khmer Empire, located in the Kulen hills. Green indicates previously known sites; red indicates new features. ( Source: Khmer Archaeology Lidar Consortium, Damian H. Evans/PNAS, 2013)

By the time the royal capital moved south to Angkor around the end of the ninth century, Khmer engineers were storing and distributing vast quantities of precious seasonal monsoon water using a complex network of huge canals and reservoirs.

Harnessing the monsoon provided food security—and made the ruling elite fantastically rich. For the next three centuries, they channelled their wealth into the greatest concentration of temples on Earth.

One temple, Preah Khan, constructed in 1191, contained 60 tonnes of gold. Its value today would be about £2 billion (US\$3.3 billion).

But despite the city's immense wealth, trouble was brewing.

At the same time that Angkor's temple-building program peaked, its vital hydraulic engineering network was falling into disrepair—at the worst possible moment.

The end of the mediaeval period saw dramatic shifts in climate across Southeast Asia. Tree ring samples record sudden fluctuations between extreme dry and wet conditions— and the lidar map revealed catastrophic flood damage to the city's vital water network.

With this lifeline in tatters, Angkor entered a spiral of decline from which it never recovered.

In the 15th century, the Khmer kings abandoned their city and moved to the coast. They built a new city, Phnom Penh, the present-day capital of Cambodia. Life in Angkor slowly ebbed away.

When Mouhot arrived, he found only the great stone temples, many of them in a perilous state of disrepair. Nearly everything else— from common houses to royal palaces, all of which were constructed of wood—had rotted away. The vast metropolis that once surrounded the temples had been all but devoured by the jungle.

(Source: BBC News Magazine, BBC.com, 23 September 2014, <http://tinyurl.com/kdmcxsr>. Note: BBC filmmaker Ben Lawrie's documentary *Jungle Atlantis* was recently screened on BBC2 in the UK.)





A view of the Bayon temple at Angkor

# BOOKS

Reviewed by Ruth Parnell

## MEDICAL MYTHS & HEALTH LIES THAT ARE KILLING US

by Peter Dingle, PhD

Barker Deane Publishing, Victoria, Australia, 2014

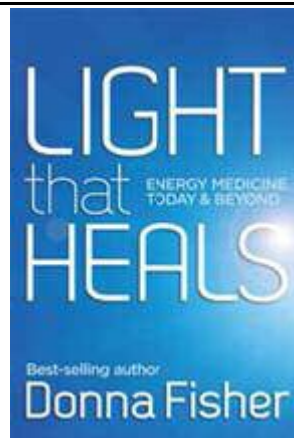
ISBN 978-0-9923398-6-9 (226pp tpb)

Avail: [barkerdeanepublishing.com.au](http://barkerdeanepublishing.com.au)

The take-away message from Dr Peter Dingle's book is to question everything, especially the prevailing "wisdom" from pharmaceutical, food and media companies because their pronouncements are sullied by their vested interests.

We're not getting any healthier or better informed when they prescribe useless drugs against cholesterol, produce unhealthy foods, and spruik untruths so as not to upset advertisers. Dr Dingle, researcher, health educator and author of *Reversing Heart Disease...* (reviewed in 21/06), has also had his own distressing experiences with the authorities, in this case a coroner. We're literally being killed because of the medical myths and health lies that make lots of money for their perpetrators.

Dr Dingle exposes 25 of these myths and lies; for instance, that the medical system is safe; that cholesterol is bad for you; that antidepressants work; that you can't prevent or heal multiple sclerosis; that most disease is genetic; that drug companies have our best interests at heart; that saturated fats cause heart attacks; and that breakfast cereal and milk are good for you. He supports his conclusions with hundreds of scientific references (although abbreviated) to bring his points home. This is actionable information for positive change.



## LIGHT THAT HEALS

by Donna Fisher

Carter Film & Book Publishing, Queensland, Australia, 2014

ISBN 978-0-9924129-0-6 (242pp tpb)

Available: [www.donnafisher.com.au](http://www.donnafisher.com.au)

In her fourth book dealing with electricity and disease, Donna Fisher restates and updates information about electromagnetic fields (EMFs), radiofrequency and microwave radiation as well as "dirty electricity" and their links with cancer, ageing, chronic fatigue syndrome, multiple sclerosis, autism, genetic abnormalities and many more illnesses (see her article in NEXUS 16/06 and book reviews in 15/06, 17/01 and 18/04).

In the first section of her book, Fisher covers "light that harms" and advises on how to measure, limit exposure to and filter out EMFs and implement "electromagnetic hygiene" steps for better health.

In the second part, Fisher focuses on "light that heals", explaining that EM energy at the right frequencies can have powerful healing effects. She assesses a range of techniques utilising EMF, such as the PowerTube radiowave

therapy, oncothermia and the minimally invasive NanoKnife which can treat difficult-to-reach tumours. She considers light treatments such as photobiomodulation, quantum therapy and photodynamics, and therapies utilising colours and crystals.

Donna Fisher's *Light that Heals* is an accessible book that you can consult to enhance your quality of life in our EMF-soaked world.

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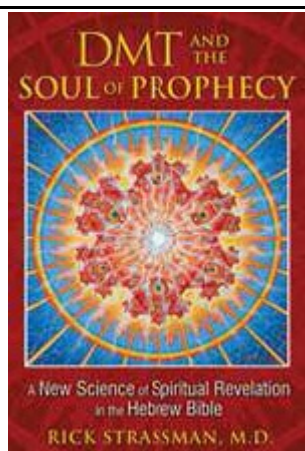
#### THE MAP OF HEAVEN

by Eben Alexander, MD, with Ptolemy Tompkins  
Macmillan Australia, 2014  
(also pub. by Simon & Schuster, USA, 2014)  
ISBN 978-1-74351-988-2 (208pp tpb)  
Available: [www.panmacmillan.com.au](http://www.panmacmillan.com.au)  
Amazon.com

For a week in 2008, neurosurgeon Eben Alexander, MD, was suffering from a rare bacterial meningitis and was in a deep coma. During that time, he had a glorious, intense, near-death experience (NDE), one that changed his life in a way he could not have predicted. While he was recovering, he recorded his insights and went on to write *Proof of Heaven*—but he knew nothing about NDEs until he began to explore the literature and found that NDE-ers report on a realm that they regard as far more real than this one. He started thinking that consciousness is not a by-product of the brain.

In his new book *The Map of Heaven*, Dr Alexander quotes poets, philosophers and frontier scientists in support of his contention that science and spirituality can unite to answer the big questions about who we are, where we came from and where we're going. He includes deeply moving stories from people who have had incredible NDEs or who have participated in the NDEs of their loved ones ahead of their deaths. He speaks of the gifts we've been given—knowledge, meaning, vision, strength, belonging, joy and hope—and tells of the glue that binds everything together in this world and the next: *love*. He gives comfort to the grieving, and certainty that consciousness survives death.

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#### DMT AND THE SOUL OF PROPHECY

by Rick Strassman, MD  
Park Street Press, VT, USA, 2014  
ISBN 978-1-59477-342-6 (340pp tpb)  
Available: [www.ParkStPress.com](http://www.ParkStPress.com)

In the first half of the 1990s, clinical psychiatrist Rick Strassman, MD, conducted studies with psychedelic drugs, particularly DMT (dimethyl-tryptamine), a compound produced by the human body as well as by animals and plants. His research resulted in his acclaimed book *DMT: The Spirit Molecule*. However, the models he worked with—psychiatry, Zen Buddhism and Latin American shamanism—didn't explain the biological and metaphysical mechanisms of the DMT experience.

In searching for a more closely aligned model, Dr Strassman found that the spiritual visions of the Hebrew prophets such as Ezekiel and Daniel were most in tune with those of DMT experiencers, so he embarked upon intensive study of the Hebrew Bible as well as the commentaries of mediaeval Jewish philosophers. He uses the term "theoneurology" to describe his new model, in which the Divine communicates directly with the brain, as opposed to "neurotheology", in which altered brain function generates the impression of such an encounter.

Dr Strassman concludes that the prophetic message is richer in terms of the information it contains, reflecting a more highly developed rational faculty compared with the imaginative capacity sparked in the DMT experience. His findings have great implications for consciousness research and spiritual practice.

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#### BEYOND PAST LIVES

by Mira Kelley

Hay House, London, UK, 2014

ISBN 978-1-78180-387-5 (224pp tpb)

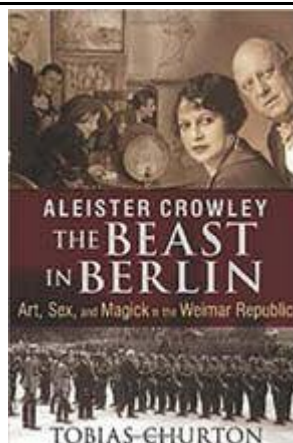
Available: [www.hayhouse.co.uk](http://www.hayhouse.co.uk)

[Amazon.com](http://Amazon.com)

We can heal body, mind and spirit by delving into our past lives, yet we live past, present and future lives simultaneously. This is what lawyer turned hypnotic regression therapist Mira Kelley has discovered in the course of her work with clients—and with some high-profile comrades such as Dr Brian Weiss and Dr Wayne Dyer (who wrote the foreword to her book). She was amazed by the testimony of one of her early clients whose regressions suggested that he'd lived six lives, many concurrently, between the 1910s and the 2040s. This is a quite a turn-up for the books!

Kelley relates much about the nature of time, destiny and free will in her profound book *Beyond Past Lives*. She enlightens us about parallel lives, our counterpart souls and the Oversoul—a composite of different souls that can "split" energetically to create soul groups with close bonds through various incarnations. To assist our spiritual advancement, Kelley provides a series of exercises that can help us access powerful healing, with or without regression therapy. We can learn to communicate with our Higher Self, transform our beliefs and activate forgiveness and healing. She encourages us to rise above our limitations, truly love ourselves and connect with the Source. A book of transformative possibilities.

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#### ALEISTER CROWLEY: THE BEAST IN BERLIN

by Tobias Churton

Inner Traditions, VT, USA, 2014

ISBN 978-1-62055-256-8 (404pp hc)

Available: [www.InnerTraditions.com](http://www.InnerTraditions.com)

Tobias Churton, a theologian specialising in Gnosticism, Rosicrucianism (see 17/02) and Freemasonry, has already written a biography of "The Beast", *Aleister Crowley* (2011). Now he concentrates on Crowley's time in Berlin during 1930-32 when he was in his mid-50s.

An author as well as a poet, painter, mystic and practitioner of Magick, Crowley led a controversial life. He was drawn to the hedonistic, artistic, "degenerate" Berlin in the final years of the Weimar Republic when a glittering host of luminaries in the arts, humanities and sciences were making their mark. Crowley certainly made his, and one of the highlights was an exhibition of his paintings in late 1931 (a selection of colour plates is included).

Churton accessed source material from Crowley's letters and diary and also from the Ordo Templi Orientis and other contributors. As well as putting Crowley's life into historical context, Churton discloses details about Crowley's promotion of his Thelema philosophy, his publishing forays, his friends and accomplices, his love life and sex-magic exploits, his work as an unofficial spy for British Intelligence amidst the prevailing political intrigues, his everpresent financial problems and his fascination for the fledgling field of quantum physics.

Churton's examination is all the more compelling considering the backdrop of Hitler's rise to power.

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#### MISSING MICROBES

by Martin J. Blaser, MD

Oneworld Publications, London, 2014

(also pub. by Henry Holt & Co., USA)

ISBN 978-1-78074-441-4 (273pp tpb)

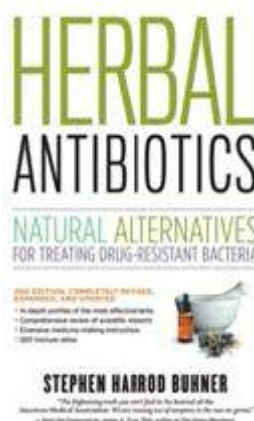
Available: [oneworld-publications.com](http://oneworld-publications.com)

Our microbial diversity is declining at an alarming rate and is compromising our immunity and ability to combat illness. Martin Blaser, MD, who has been studying the role of bacteria in human disease for over 30 years and is director of New York University's Human Microbiome Program, concludes that the main culprit is antibiotics and their overuse in both humans and livestock. Other factors include the rise in Caesarian sections (vaginal births contribute to the newborn's uptake of essential microbes) and the use of sanitisers and antiseptics.

While awareness is growing, we're running out of options for treating especially virulent pathogens such as *Clostridium difficile* and *Staphylococcus aureus*. But that's not all. According to Dr Blaser, the jump in antibiotics use, especially with prescriptions for children, is implicated in epidemics affecting metabolism, immunity and cognition—allergies, asthma, autism, coeliac disease, diabetes, obesity, ulcerative colitis among them.

Unless we change our ways, he says we're facing an "antibiotic winter", an unstoppable worldwide plague. As a solution, Dr Blaser is not against probiotics, prebiotics and synbiotics to improve gut flora but he points out that most of these have never been subjected to double-blind clinical trials to prove their efficacy. His book *Missing Microbes* sounds a wake-up call.

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#### HERBAL ANTIBIOTICS

by Stephen Harrod Buhner

Storey Publishing, USA, 2012 (2nd ed.)

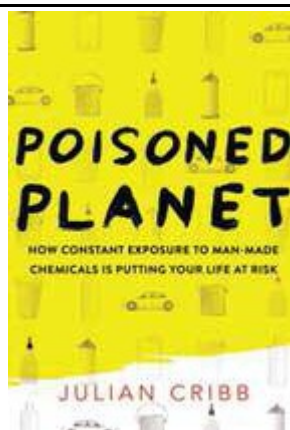
ISBN 978-1-60342-987-0 (472pp tpb)

Available: [www.storey.com](http://www.storey.com)

The rate of antibiotic resistance is growing exponentially. Already many strains of pathogenic bacteria are resistant to all kinds of treatment, and it won't be long before just about all types are. These bacteria are smart and apply strategies to ensure their survival; in fact, they also pass these on to unrelated bacterial species in the spirit of cooperation.

As herbalist and Earth poet Stephen Harrod Buhner explains, plants have chemistries that are too complex to allow resistance; they have very few side effects compared with Big Pharma's drugs, and they're ecologically sound (see "The Lost Language of Plants" in 21/04-05). In *Herbal Antibiotics*, Buhner lists the Gram-positive and Gram-negative bacteria as well as nonbacterial variants that are now drug resistant and he provides herbal treatment formulas for each of these microbes. He places these herbs into three categories: systemic antibacterials, localised antibacterials and facilitative or synergistic herbs. He lists their properties, chemistries and uses in treatments, gives tips on collection and cultivation, and summarises the latest scientific research. He also explains how to make your own herbal medicines, from preparing the plants to making infusions, decoctions and tinctures.

Buhner's practical guidance may be our last and best hope in dealing with increasingly untreatable diseases. (His 2013 book *Herbal Antivirals* is also available.)



### POISONED PLANET

by Julian Cribb

Allen & Unwin, Australia, 2014

ISBN 978-1-76011-046-8 (278pp pb)

Available: [www.allenandunwin.com](http://www.allenandunwin.com)

Every year about 1,000 new chemicals are introduced to the marketplace, on top of the more than 84,000 chemical substances already manufactured or used in the USA alone and the nearly 144,000 "preregistered" in the European Union. These chemicals aren't even tested for their synergistic effects. In *Poisoned Planet*, award-winning science writer Julian Cribb paints a disturbing picture of the effects of pollution on the health of our land and water environments, on creatures whom we depend on to live, and on people including children and the unborn.

Backed up by a wealth of scientific studies, Cribb describes how chemical contamination has bioaccumulative and toxic effects, how nutrient run-off is destroying marine habitats, how industrial production creates hazardous byproducts that can't be disposed of safely, how coal-fired power stations add around 8,100 tonnes of mercury into global air circulation each year, how we still can't deal with nuclear waste, and much more. With industrialised food production, endocrine-disrupting compounds, volatile organic chemicals, electronic waste hazards, residues from pharmaceutical and illicit drugs, nanoparticles in our personal-care products, dead zones and rubbish pyres in the oceans and the rise in developmental disorders, autoimmune diseases and cancers, we're in a dire situation. Yet Cribb stays optimistic that corporate accountability, effective regulations and personal responsibility can help turn this around for the better.

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### AIDS: What the Discoverers of HIV Have Never Admitted

by Lawrence Broxmeyer, MD

CreateSpace, USA, 2014

(updated edition; first published in 2003)

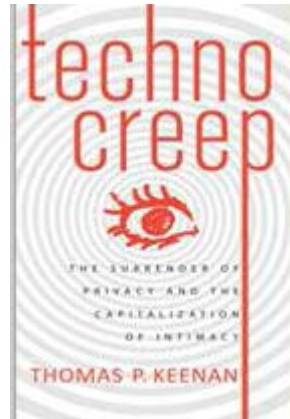
ISBN 978-1-4954-5704-3 (136pp tpb)

Available: [Amazon.com](http://Amazon.com)

The mantra that "HIV is the sole cause of AIDS" has been chanted for three decades, and yet it remains an hypothesis, with little evidence that human immunodeficiency virus is to blame. Lawrence Broxmeyer, MD, who has treated AIDS patients, conducted AIDS-based research and produced peer-reviewed studies, questioned whether HIV is really a virus or a retrovirus at all. In his well-referenced book, he draws attention to the dramatic restoration of CD4 cell counts in patients with HIV and tuberculosis (TB) when only anti-TB treatments were used. (See his "Ebola or TB" article this issue).

Dr Broxmeyer reviews the work of key figures, revisiting high points in TB and cancer research and deadends in HIV and AIDS research. His finding is that "HIV" is an L-form of an atypical tuberculosis, particularly *Mycobacterium avium*, and that AIDS is the result of a co-infection with preexisting *M. tuberculosis* (which at least a third of humans have) and *M. avium*. This co-infection leads to the destruction of immunity via ferocious attacks on the white blood cells. Furthermore, these mycobacterial agents can be sexually transmitted.

"Reactionary and monetary forces" have also played their part in missing the mycobacterial cause of AIDS, he says. Dr Broxmeyer's persuasive argument deserves serious attention by medical researchers, especially virologists and retrovirologists.



### TECHNOCREEP

by Thomas P. Keenan

OR Books, New York & London, 2014

ISBN 978-1-939293-40-4 (265pp tpb) Available: [www.orbooks.com](http://www.orbooks.com)

We can't do without computers, mobile phones and the Internet, but with these technologies come ever more "creepy" invasions of our privacy. A computer expert, technology journalist and now Professor of Digital Design at Canada's University of Calgary, Thomas Keenan exposes how we're being spied upon by governments and their agencies, corporations and criminals. His expansive coverage is up to date on the latest technologies that can access and use personal information, develop profiles to target us for marketing purposes, and monitor our every movement.

Professor Keenan writes about many types of "technocrep", from machine intelligence, camera surveillance, facial recognition, sensors and trackers, hacking and biometric devices to technologies that put children at risk. He also assesses the US National Security Agency's increasing powers that abuse our privacy. He's developed a "technocreepiness model" that explores what contextualised privacy means to us. He also dismisses the notion that if you're not doing anything wrong, you don't have anything to worry about.

Fortunately, there are steps that we can take to minimise the impact that invasive technologies have on our lives. There are ways to protect our "cyberscent": install software to track the trackers, clear out "digital detritus", password-protect all our devices, use a privacy-friendly search engine, control postings of your face, switch devices to "location off" mode, and more. Professor Keenan warns that the risks to our privacy won't go away, so we need to future-proof ourselves from technocrep.

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### NARCOLAND

by Anabel Hernandez

Verso, London & New York, 2013, 2014

ISBN 978-1-78168-296-8 (392pp pb)

Available: [www.versobooks.com](http://www.versobooks.com)

[www.bloomsbury.com/au](http://www.bloomsbury.com/au)

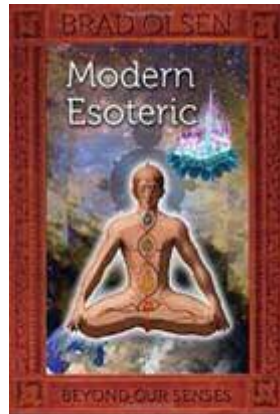
Anabel Hernandez is a brave investigative journalist in chronicling Mexico's illegal drug cartels. In *Narcoland* (first published in Spanish in 2010), she unravels the story of how Mexico became a narcodemocracy, going back to the 1970s to explain the birth of the cartels.

Hernandez documents the corruption that's rife among politicians, military and police officials, judicial figures, business people and intelligence operatives who've allowed criminals to ascend to power. She laments how in the six years from its inception in 2006, the "war on drugs" failed, resulting in more than 80,000 deaths and over 20,000 "disappearances", and leaving hundreds of thousands the victims of kidnapping, extortion and violence.

Much of her focus is on the rise, fall and rise of Joaquin Loera Guzman—"El Chapo"—who became "the most powerful drug trafficker in history", according to the US Drug Enforcement Administration. She tracks El Chapo's arrest on a murder charge in 1993 when he was a minor trafficker, his rigged escape from prison in 2001 and his rise to become head of the Sinaloa Cartel—by 2009, the most powerful mafia group in the Americas. Her new chapter covers El Chapo's re-arrest in February 2014.

Full of incredible revelations, *Narcoland* is a jaw-dropping read.

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### MODERN ESOTERIC

by Brad Olsen

CCC Publishing, CA, USA, 2014

ISBN 978-1-888729-50-4 (477pp pb)

Available: [www.CCCPublishing.com](http://www.CCCPublishing.com)

We're at the frontier of an evolution in consciousness, with limitless potential to create a better future individually and collectively. It helps, though, if we're informed about what's gone before and what we're up against now. In *Modern Esoteric*, publisher, editor and change agent Brad Olsen analyses the flaws in history as we've been taught it. He restates the wisdom of the ancient esoteric traditions and champions the cause of free-energy technologies. (See the review of *Future Esoteric* in NEXUS 20/02.)

Olsen has divided his "alternative narrative" into three parts. In "Lifeology", he examines creation myths, charts the progress of civilisations, speculates on superhuman DNA and contemplates the legacy of ancient mystery schools. In "Control", he explains how we're deceived by ruling bloodline families, why sacred knowledge that is our spiritual birthright has been kept from us, and how our health is being compromised by chemicals and GM foods. In "Thrive", Olsen lights the way to a new world in which the solution is to connect with our true nature, give service to others, and change our consensus reality via the science of consciousness. This involves understanding vibrational frequency, extradimensional realities, hypercommunication and quantum DNA. We *can* overhaul the global financial system, bridge the gulf between science and religion and overcome the divisions that lead to wars. There is a better way, and it's up to us to be the best we can be, says Olsen in his grand-vision book.

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### MISSING 411: The Devil's in the Detail

by David Paulides

CreateSpace, USA, 2014

ISBN 978-1-4952-4642-5 (435pp tpb)

Available: [www.canammissing.com](http://www.canammissing.com)

Why doesn't the law-enforcement arm of the US National Park Service or its parent body, the Department of the Interior, have a system for tracking missing persons? Is it that these authorities, as well as the US Forest Service, don't want the public to know how many people actually go missing in national parks and remote regions every year—and often in clusters over time—because this would discourage tourism?

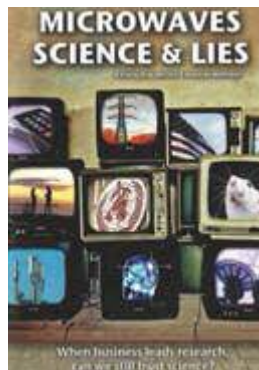
Former policeman David Paulides has released the fourth book in his *Missing 411* series (see *Missing 411: North America and Beyond*, 21/01). He covers many new cases from the USA, Canada and Australia as well as from Borneo, Ecuador, UK, New Zealand, Switzerland and Austria. He's already identified common factors in these cases: sudden bad weather, removed footwear, the disabled or injured, the presence of berries, toddlers who've traversed great heights or distances, and people who've turned up in previously searched areas. So many of the missing have never been found, though. Here he's included new categories: intellectuals, abduction allegations, children who've disappeared from inside homes or vehicles, people who were last in line while walking with others, and more. He's compiled charts covering cases from all four books.

These missing-persons cases are confounding and disturbing, but Paulides is sticking to presenting the facts instead of speculating on them.



# DVDs

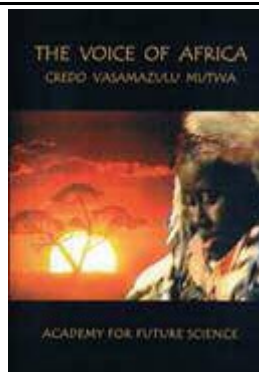
## Compiled by Duncan Roads



MICROWAVES, SCIENCE & LIES  
by Jean Heches & Nancy de Meritens  
Running time: 92 mins  
Avail: Vimeo, [tinyurl.com/l8566dv](http://tinyurl.com/l8566dv)

For the past 10 years worldwide, the questioning of mobile phone antennas has been increasing. It is based on numerous scientific studies which have revealed the effects of electromagnetic waves on health. Yet, states, industrialists and part of the scientific community claim that health standards protect the public.

By way of following those who launch alerts—citizens, journalists, scientists and electromagnetically hypersensitive people—this film reveals how the mobile phone strategists manipulate science to send out a reassuring message which casts doubts on the knowledge surrounding the harmfulness of this very technology. The film also reveals the plight of electrosensitives in a society saturated with RF waves.



THE VOICE OF AFRICA: Credo Vusamazulu Mutwa  
by Drs J. J. and Desiree Hurtak  
Running time: 2 hours (2 DVDs)  
Avail: <http://www.keysofenoch.org>

Combining eloquent poetry with historic discussion, this film explores the life and times of the famous Zulu shaman Credo Vusamazulu Mutwa in South Africa.

Shot with a professional film crew in the depths of troubled Africa in 1987, the story of change and spiritual discourse offers revelations and inspiration from a leading Zulu thinker. Though designed as a documentary, this

film can be used as an introduction to some of the most fascinating teachings of planetary contact with higher intelligence from the respected writer of the great African classic, *Indaba, My Children*.



THE ANIMAL COMMUNICATOR  
produced by NHU Africa  
Running time: 60 mins  
<http://www.animalspirit.org>  
Available: NEXUS Magazine, Australia

What if you could talk to animals and have them talk back to you?

Anna Breytenbach has dedicated her life to what she calls interspecies communication. She sends detailed messages to animals through pictures and thoughts. She then receives messages of remarkable clarity back from the animals.

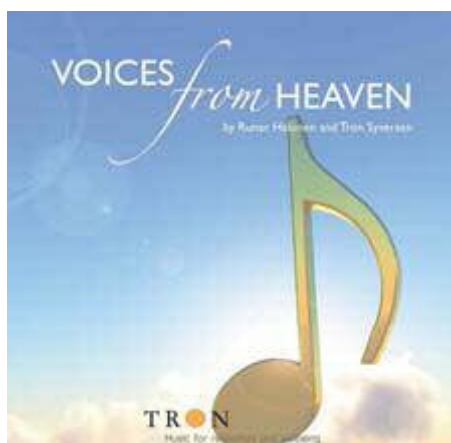
Anna can feel the scars hidden under a monkey's fur. She can understand the detailed story that is causing a bird's trauma, She transforms a snarling leopard into a relaxed, contented cat. The whole animal kingdom comes alive in a way never seen before: wild birds land on her shoulders, fish gather around her when she swims, and wild, unfamiliar baboons lie on her body as if she is one of their own.

This is the first full-length film on the art of animal communication.

You *must* watch this documentary!

# MUSIC

Reviewed by Richard Giles



VOICES FROM HEAVEN  
by Runar Halonen and Tron Syversen  
Tron Music, Norway, 2010 (53mins)  
Europe—Silenzio Music, [www.silen-zio.de](http://www.silen-zio.de)  
USA—[www.tronmusic.com](http://www.tronmusic.com)

Sound healing is a powerful tool. The energy it creates can best be described as a "kindness" energy. Here, Runar Halonen uses his voice as an instrument to help induce mental shifts. His collaborator is Tron Syversen, who contributes spacey, ambient keyboard sounds and synthesised percussion and string effects. Their compositions, recorded without rehearsal, encompass the decades-long tradition of new-age music. *Voices from Heaven* distils a unique form of music that has profound healing benefits.

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PAVANE  
by Paul Higgs  
Toucan Tango Music, UK, 2013 (45mins)  
Distributors: UK—[www.paulhiggs.co/](http://www.paulhiggs.co/)  
USA —[www.cdbaby.com](http://www.cdbaby.com)

British horn player Paul Higgs's latest release is an album that even those who are not great fans of the trumpet will enjoy. *Pavane* is a collection of original pieces by Higgs, his trumpet complemented by an ensemble featuring strings, classical guitar and cello. Every track presents a new soundscape, and the elegant tone of Paul's trumpet transports us through each in turn. It's a beautiful and evocative series of arrangements. This atmospheric confluence of classical and jazz realms takes the listener on a journey through alluring as well as peaceful worlds of sound.

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WEIGHTLESS  
(Ambient Transmissions Vol. 2)  
by Marconi Union  
Just Music, UK, 2014 (43mins)  
Distributor: UK—[www.justmusic.co.uk](http://www.justmusic.co.uk)

The inspiration for Marconi Union's new album came from the band's being asked to work with a sound therapist to create a relaxation music piece. For *Weightless*, the group seamlessly blends elements of dub, jazz, ambient and

electronic styles. These three musicians' explorations often draw comparisons with Brian Eno and Biosphere, and the graceful manner in which their compositions unfold sets them apart from other ambient groups. As part of this project, they worked separately on different elements of individual tracks, then reworked them until they had a six-part composite album, where every track is sonically related but each has its own identity.

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#### NOCTURNES

by Dan Chadburn

Dan Chadburn Music, 2012 (47mins)

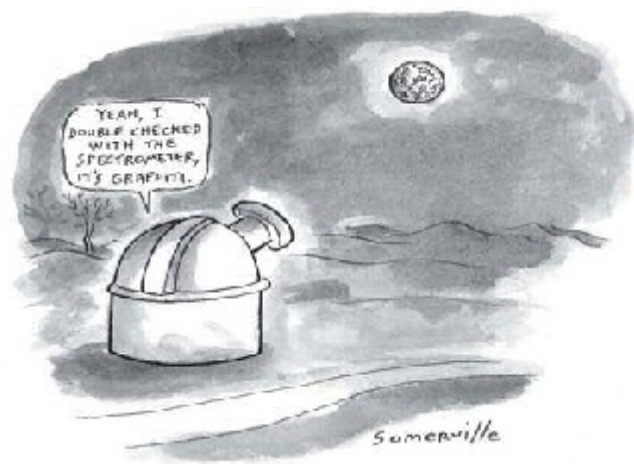
Distributors: USA—[www.cdbaby.com](http://www.cdbaby.com)

<http://danchadburn.com/>

Several of pianist Chadburn's close friends asked him to create an album of music to "inspire, soothe, and heal". The result is *Nocturnes*. Some of the 12 tracks are solo piano, and others are accompanied by Helen Hausmann on violin and viola, Carole Libelo on English horn and Marty Hackleman on French horn. The album, Chadburn explains, explores the dreams, fears, mysteries and quiet serenity that can appear as night sets into place. The music evolved out of improvisational sessions held at night in his studio. Calm and warming music.

# Cartoons

by Phil Somerville





*"To expedite a cure for Ebola, we have now deployed hundreds of the nation's top microbiologists, who have been specifically seconded from our germ warfare programme."*